adopted S8800-1

STATISTICS OF WISCONSIN PUBLIC UTILITIES

1978-1977-1976

ELECTRIC, GAS, TELEPHONE
WATER AND HEATING UTILITIES

PUBLIC SERVICE COMMISSION OF WISCONSIN

Accounts and Finance Division

Bulletin No. 8
October, 1979

STATISTICS OF WISCONSIN PUBLIC UTILITIES

1978-1977-1976

TABLE OF CONTENTS

Text	Page
Summary	1
Financial Statistics	5
Utility Plant in Service and Depreciation Reserves	5
Capitalization	5
Disposition of Income	11
Electric Utilities	20
Gas Utilities	44
Telephone Utilities	53
Water Utilities	62
Steam and Hot Water Heating Utilities	69

TABLE OF CONTENTS (Continued)

TABLES

Page

Financial Statistics

1 - Summary of Utility Plant in Service and Accumulated Provision for Depreciation, 1978-1976 14-15
2 - Comparative Statement of Capitalization, 1978-1976 16
3 - Disposition of Income, 1978-1976 17-19

Electric Utilities

4 - Comparative Statement of Revenues and Expenses, 1978-1976 . . 27-28
5 - Sales to Ultimate Consumers by Class of Service, 1978-1976 . 29-31
6 - Comparative Statement of Operation and Maintenance, 1978-1976 32-33
7 - Summary of Megawatt Hours Sold and Used, 1978-1976 34-36
8 - Megawatt Hours Generated and Purchased, 1978-1976 37-39
9 - Generating Plant and Transmission Line Data, 1978-1976 . . . 40
10 - Condensed Summary of 1978 Operations - Individual Private Utilities 41
11 - Condensed Summary of 1978 Operations - Individual Municipal Utilities 42-43

Gas Utilities

12 - Comparative Statement of Revenues and Expenses, 1978-1976 . . 49
13 - Sales to Ultimate Consumers by Class of Service, 1978-1976 . 50
14 - Operating and plant Statistics, 1978-1976 51
15 - Condensed Summary of 1978 Operations - Individual Utilities . 52

Telephone Utilities

16 - Comparative Statement of Revenues and Expenses, 1978-1976 . . 56
17 - Station Statistics, 1978-1976 57
18 - Condensed Summary of 1978 Operations - Individual Utilities . 58-61

Water Utilities

19 - Comparative Statement of Revenues and Expenses, 1978-1976 . . 64-65
20 - Operating and Plant Statistics, 1978-1976 66
21 - Condensed Summary of 1978 Operations - Individual Utilities . 67-68

Heating Utilities

22 - Comparative Statement of Revenues, Expenses and Statistics, 1978-1976 70

TABLE OF CONTENTS (Concluded)

CHARTS

	Page
1 - Comparative Trends of Revenues, 1969-1978	2
2 - Comparative Trends of Net Operating Revenues, 1969-1978	3
3 - Utility Plant in Service and Accumulated Provision for Depreciation, Electric Utilities Operating in Wisconsin, 1969-1978	6
4 - Utility Plant in Service and Accumulated Provision for Depreciation, Telephone Utilities Operating in Wisconsin 1969-1978	7
5 - Utility Plant in Service and Accumulated Provision for Depreciation, Water and Gas Utilities Operating in Wisconsin, 1969-1978	8
6 - Capitalization of Private Utilities Operating in Wisconsin, 1969-1978	9
7 - Capitalization of Municipal Utilities Operating in Wisconsin, 1969-1978	10
8 - Disposition of Gross Income, Private Public Utilities Operating in Wisconsin, 1969-1978	12
9 - Disposition of Gross Income, Municipal Public Utilities Operating in Wisconsin, 1969-1978	13
10 - Residential Electric Revenues and Consumption Ratios, Wisconsin and United States, 1969-1978	22
11 - Comparison of Electric Revenues and Expenses, 1969-1978	23
12 - Revenues of Individual Wisconsin Electric Utilities, Percent of Total Sales to Ultimate Consumers, 1978	26
13 - Comparison of Gas Revenues and Expenses, 1969-1978	45
14 - Residential Gas Revenue and Consumption Ratios, Wisconsin and United States, 1969-1978	46
15 - Revenues of Individual Wisconsin Gas Utilities, Percent of Total Sales to Ultimate Consumers, 1978	47
16 - Comparison of Telephone Revenues and Expenses - 1969-1978	54
17 - Comparison of Water Revenues and Expenses, 1969-1978	63

STATISTICS OF WISCONSIN PUBLIC UTILITIES

This bulletin presents a statistical summary of public utilities operating in Wisconsin during the period 1976-1978, inclusive. In addition, selected data over longer periods are shown in the text or portrayed in the charts. Some Wisconsin utilities have operations outside the State. These operations are generally excluded from the summaries but this was not possible in the case of financial data shown in Tables 1, 2, and 3.

The following table gives an indication of the relative importance of various utility services included in the report.

	Year Ending December 31, 1978		
	Average Number of Customers*#	Operating Revenues*	Net Operating Revenues*
Electric	1,752,868	$1,370,023,393	$218,366,889
Gas	986,607	801,620,534	50,186,645
Telephone	1,860,527	797,870,065	154,213,433
Water	917,658	101,014,654	12,962,205
Heating	780	8,640,684	1,194,067
	5,518,440	$3,079,169,330	$436,923,239

* Excludes out-of-state operations.
\# Ultimate consumers.

Chart 1 presents a comparison of trends in gross operating revenue since 1969. Gas utility revenues continue to have the greatest rate of growth with an increase of 3.3 times in 9 years. Electric and telephone revenues increased 3.0 and 2.7 times respectively while water revenues rose 1.9 times during the 9-year period. The increases are due to both increased numbers of customers and to higher rates.

Chart 2 shows that since 1969, net operating telephone revenues have risen 3.1 times, electric revenues 2.5 times, water revenues 1.9 times, and gas revenues 1.7 times.

CHART 1
COMPARATIVE TRENDS OF OPERATING REVENUES

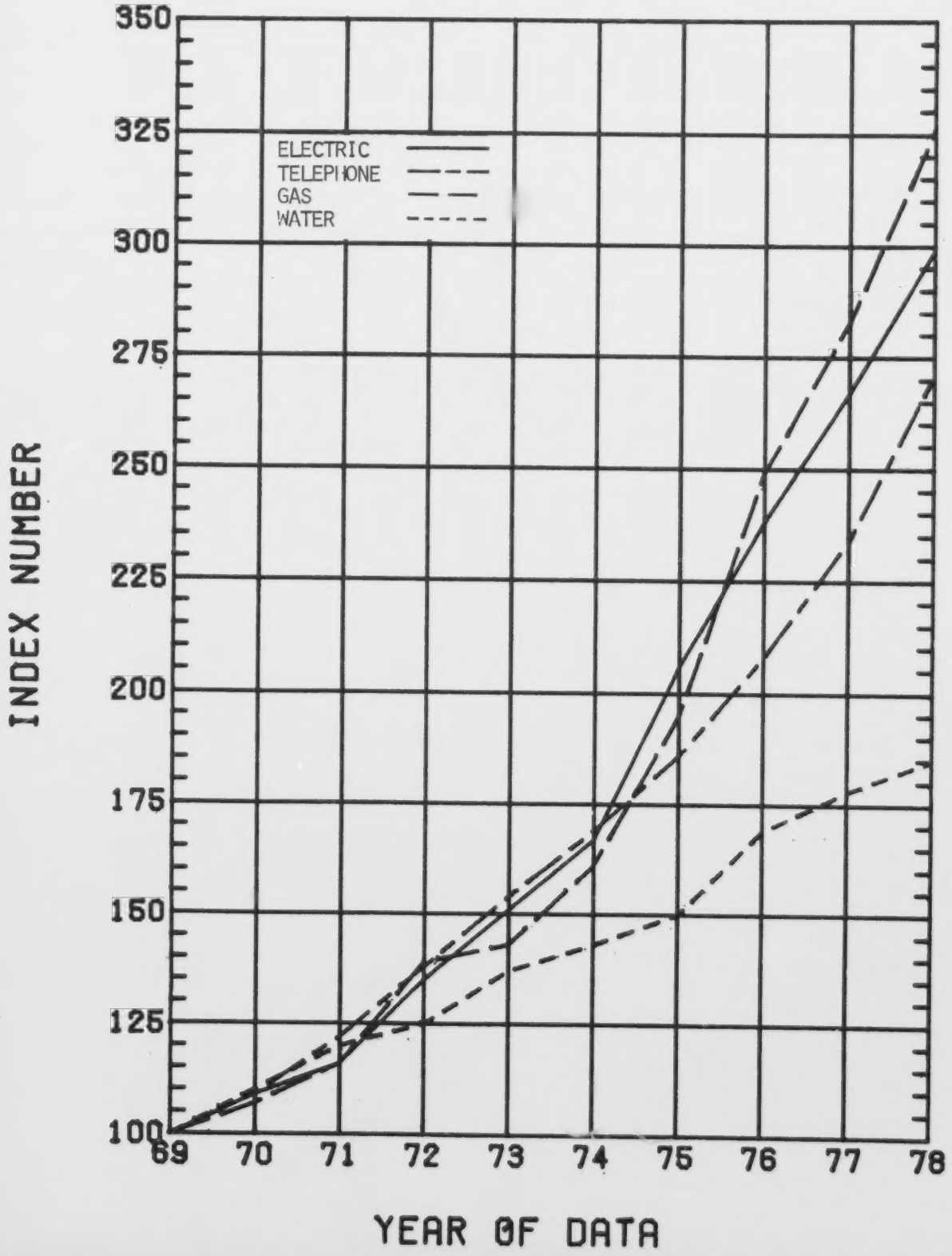
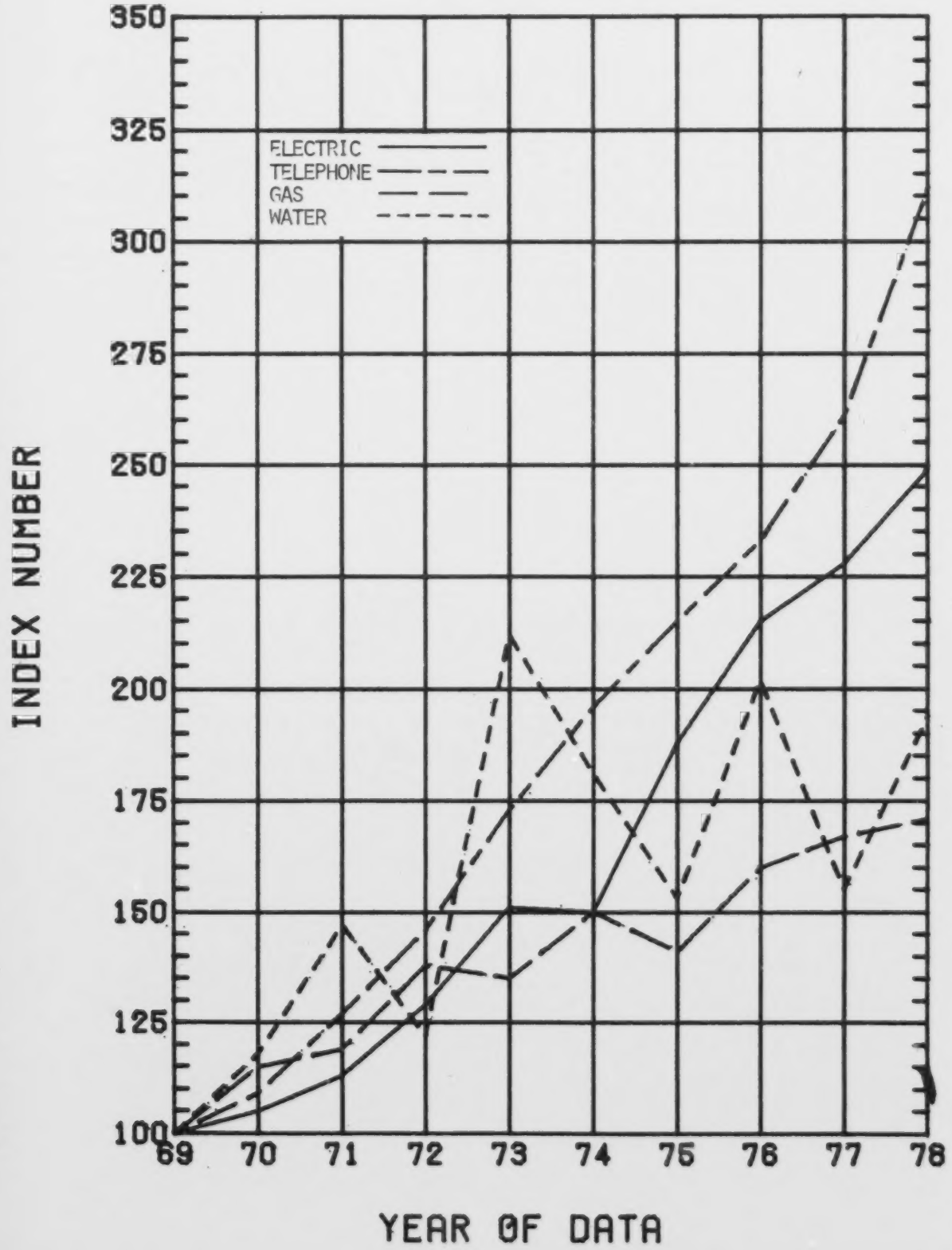


CHART 2
COMPARATIVE TRENDS OF NET OPERATING REVENUES



The number of public utilities operating in the State as of December 31, 1978 is summarized below. These figures include all utilities regardless of size.

	Total	Private	Municipal
Electric	99	14	85
Gas	17	16	1
Telephone	132	132*	0
Water	544	18	526
Heating	3	2	1
Total	795	182	613

* Includes 4 roadway companies and thirteen radio-telephone service companies.

FINANCIAL STATISTICS

Statistics on plant investment, capitalization and disposition of income are presented in this section of the bulletin. These data necessarily include all operations of Wisconsin utilities, including out-of-state operations of those utilities operating in neighboring states.

A number of municipalities include sewer operation with their water utilities and figures on plant investment, income and capitalization reflect these operations when reported (even if they are not utilities). It is to be emphasized, however, that sewer coverage presented herein is by no means complete since many municipalities operate their sewer departments independently and do not report those operations.

Utility Plant in Service and Accumulated Provisions for Depreciation

Table 1 presents a summary of utility plant in service and accumulated provisions for depreciation of Wisconsin utilities during the period from 1976 through 1978. Charts 3, 4 and 5 show similar data in graphic form over the past 10 years.

About $7.9 billion are invested in utility plant by Wisconsin utilities. Of this amount, electric plant makes up 45.3% with telephone, water and gas plant amounting to 31.4%, 10.7% and 10.5% respectively. Sewer and heating plant make up another 2.1%.

Electric cooperatives and companies engaged in intrastate transmission of natural gas do not fall under the jurisdiction of the Wisconsin Public Service Commission and therefore, data covering these companies are not included in this study. Electric cooperatives did have gross plant investment in Wisconsin of about $529 million as of December 31, 1978. Gas pipeline companies had about $217.9 million in gross plant as of the same date.

Except for water and sewer service, public utility operations in Wisconsin are predominately under private management. For example, municipalities own and operate 98% of the total water plant but only 5% of the electric plant, about 0.05% of the gas distribution plant and no telephone plant.

As of December 31, 1978, Wisconsin electric utilities had accumulated provisions for depreciation equal to 38% of electric plant in service. Telephone utilities had accumulated 22%, water utilities 20% and gas utilities 33%. The comparable figures in 1969 were 29%, 24%, 18% and 18% respectively.

Charts 3, 4 and 5 show that utility plant in service has increased steadily over the past 9 years. Electric utility plant has increased 101% since 1969. Telephone plant is up 141% while water and gas plant increased 66% and 52% for the period.

Capitalization

Capitalization of public utilities in Wisconsin is summarized in Table 2 and Charts 6 and 7. Total capitalization was about $5,865 million in 1978. Of that amount 83% was accounted for by private utilities with the remaining 17% being municipal investment.

Total capitalization was up 6% over 1977, and 81% over the past 9 years. The corresponding figures are 6% and 83% for private utilities and 7% and 74% for municipals. Charts 6 and 7 give graphic representation of these figures.

CHART 3

UTILITY PLANT IN SERVICE AND ACCUMULATED PROVISION FOR DEPRECIATION

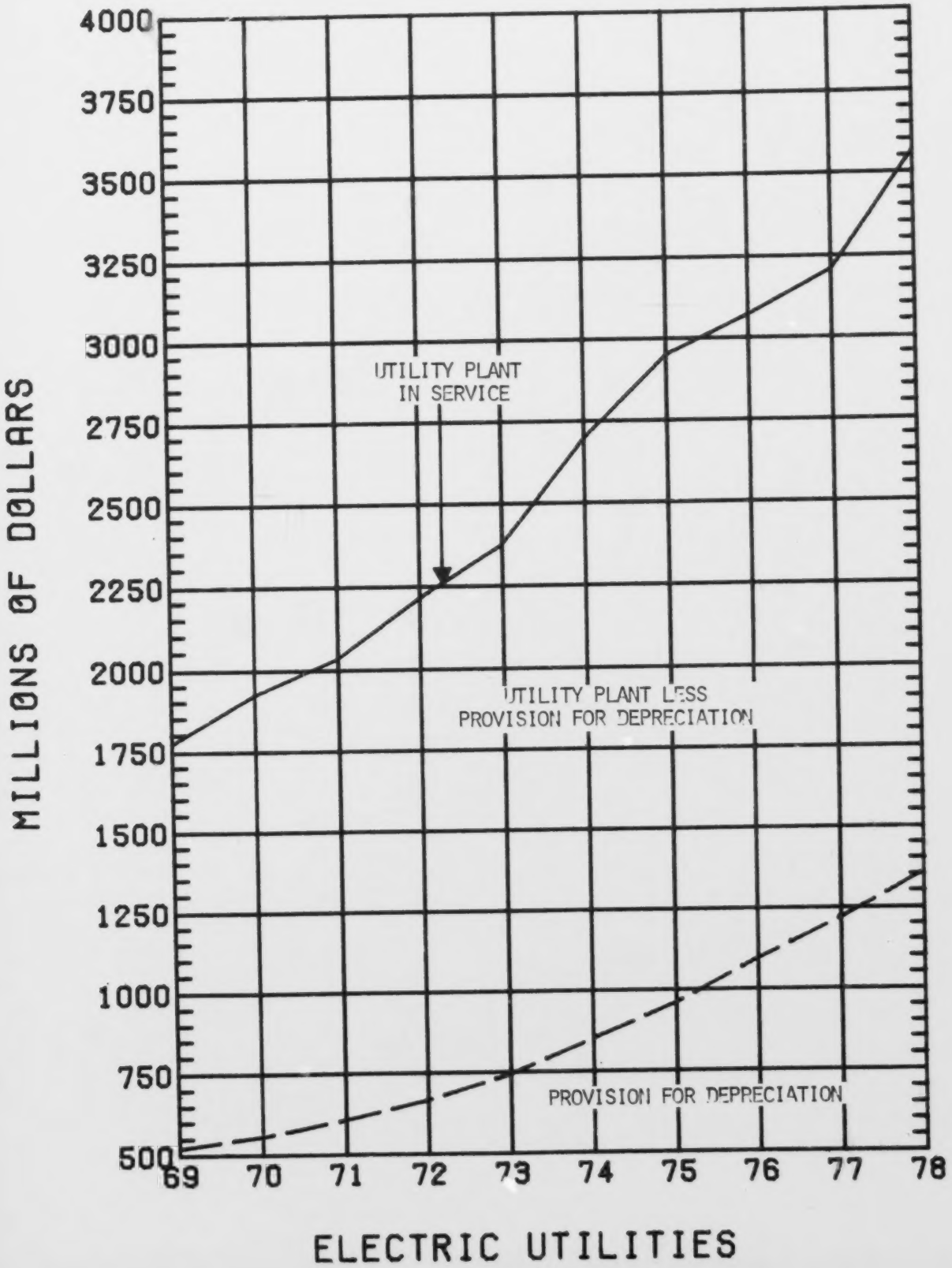
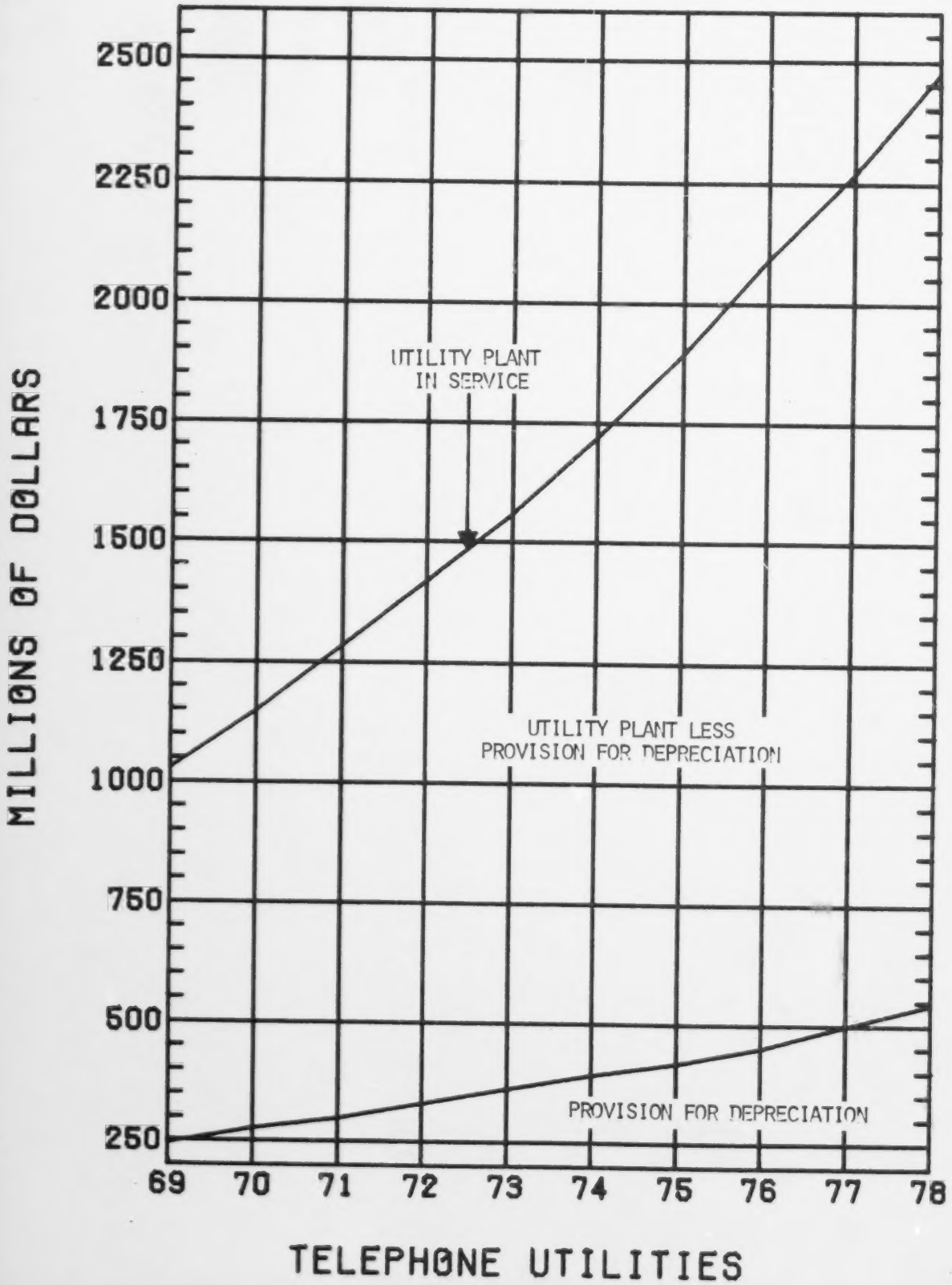


CHART 4

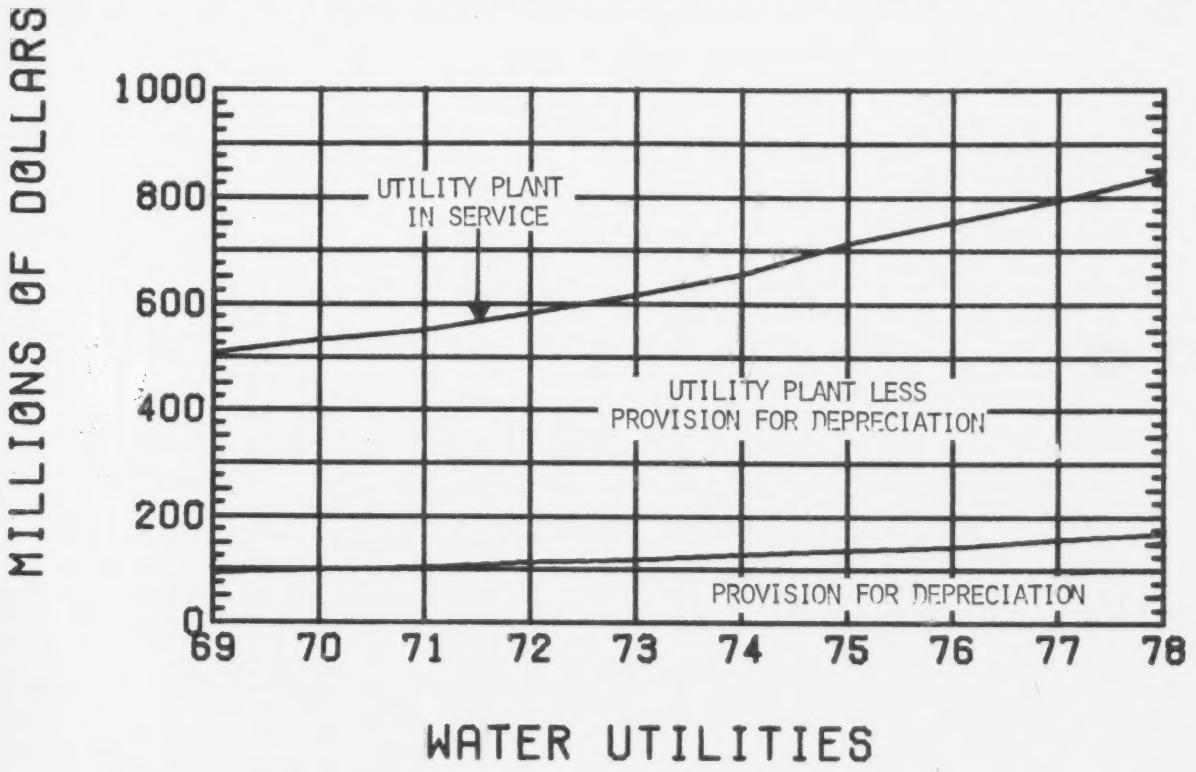
UTILITY PLANT IN SERVICE AND ACCUMULATED PROVISION FOR DEPRECIATION



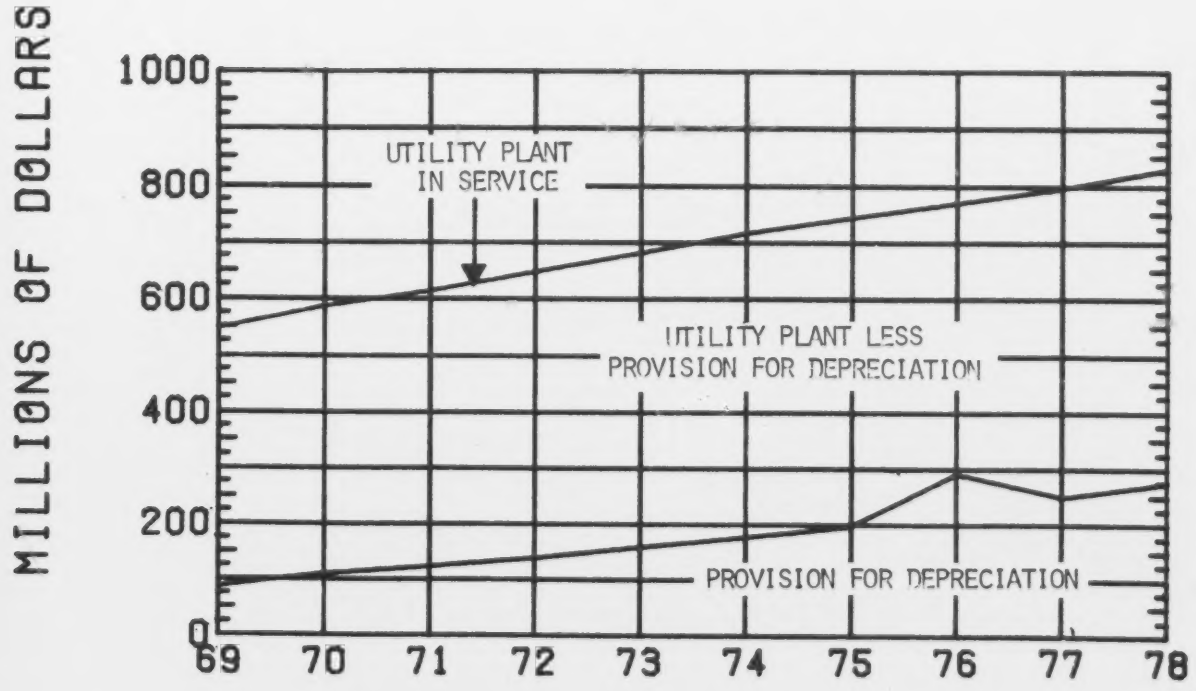
c.

CHART 5

UTILITY PLANT IN SERVICE AND ACCUMULATED PROVISION FOR DEPRECIATION



WATER UTILITIES



GAS UTILITIES

CHART 6
CAPITALIZATION OF PRIVATE UTILITIES OPERATING IN WISCONSIN

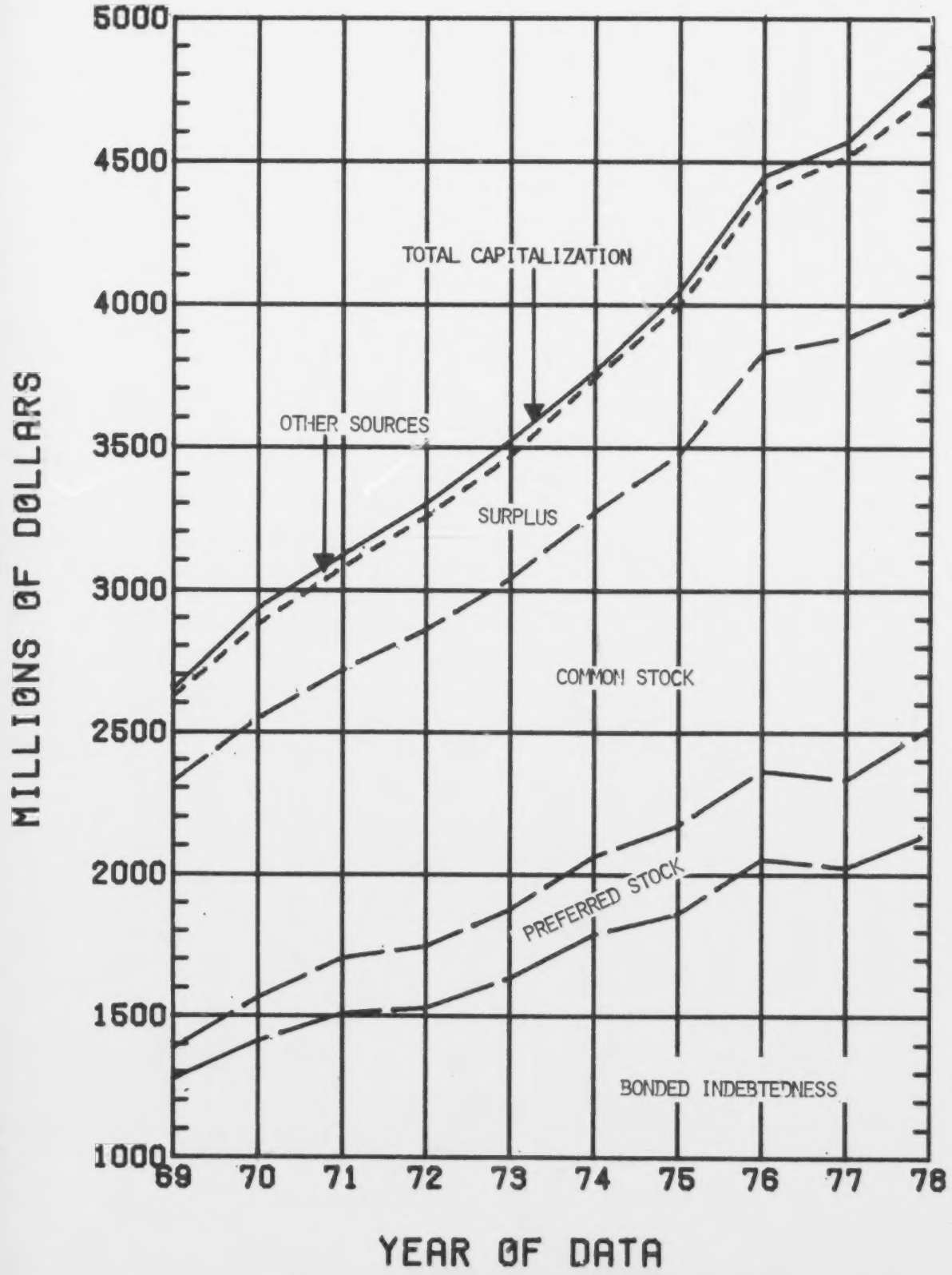


CHART 7

CAPITALIZATION OF MUNICIPAL PUBLIC UTILITIES OPERATING IN WISCONSIN

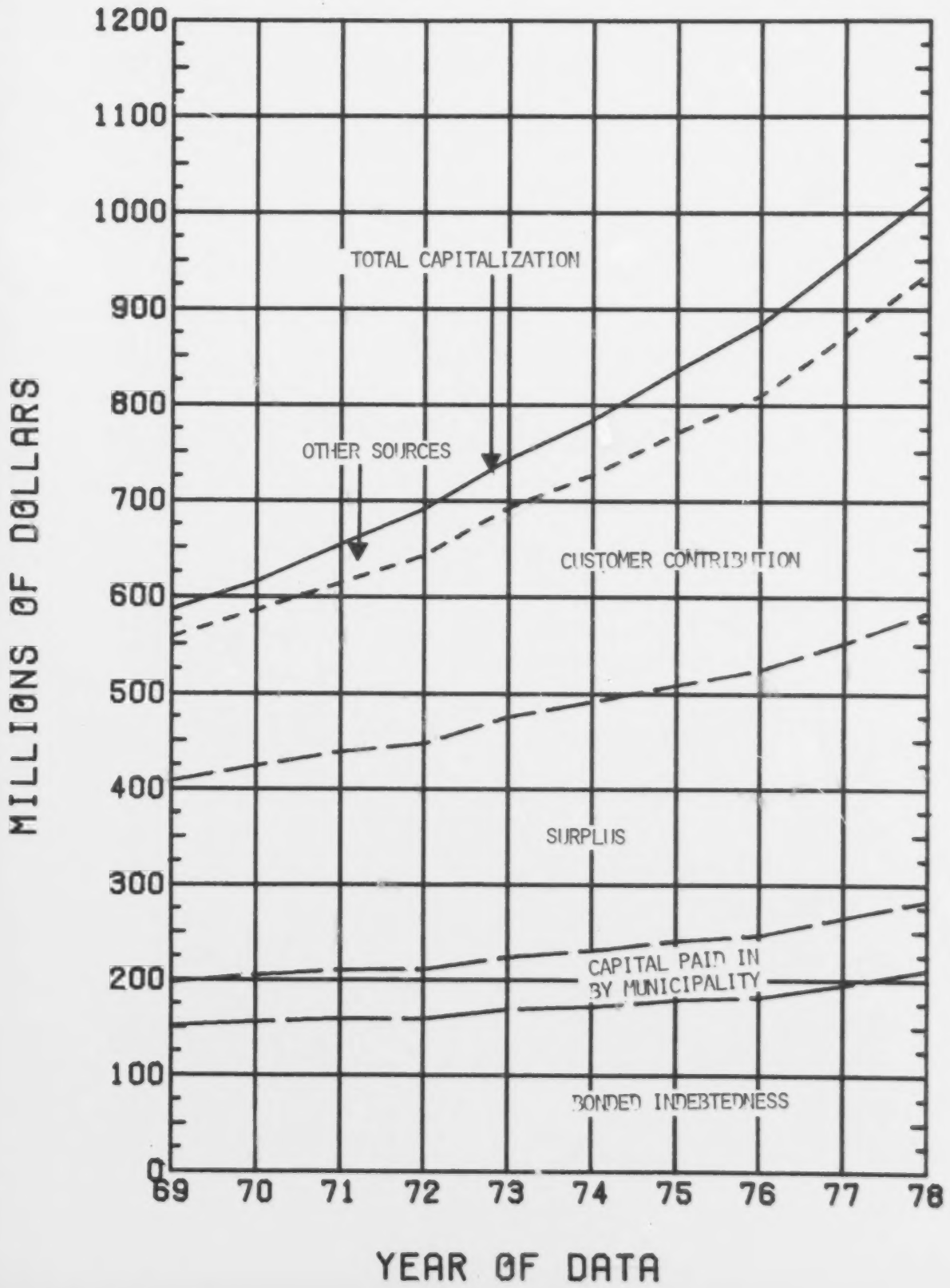


Chart 6 further shows bonds and common stock continue to be the largest source of capital for private utilities. Surplus also contributes a substantial share of total capitalization.

As shown below, Contributions in Aid of Construction is the largest item of municipal utility Capitalization. Surplus and Bonded Debt are next in size. Capital Paid in by Municipalities was only about 7.2% of the total at the end of 1978.

A comparison of the capitalization of private and municipal utilities as of December 31, 1978, is presented below:

	Private Utilities	Municipal Utilities
Bonded Indebtedness	44.3%	20.7%
Common Stock or Capital Paid in by Municipality	30.9	7.2
Preferred Stock	7.7	0.0
Surplus	14.9	29.5
Advances from Affiliates or Municipalities	1.0	7.7
Contributions in Aid of Construction	1.0	34.6
Customer Advances in Aid of Construction	0.2	0.3
Total	100.0%	100.0%

Disposition of Income

The term "gross income" as used here, is a net figure representing total income available to meet interest payments, dividends and similar items. The disposition of gross income is summarized in Table 3 and Charts 8 and 9.

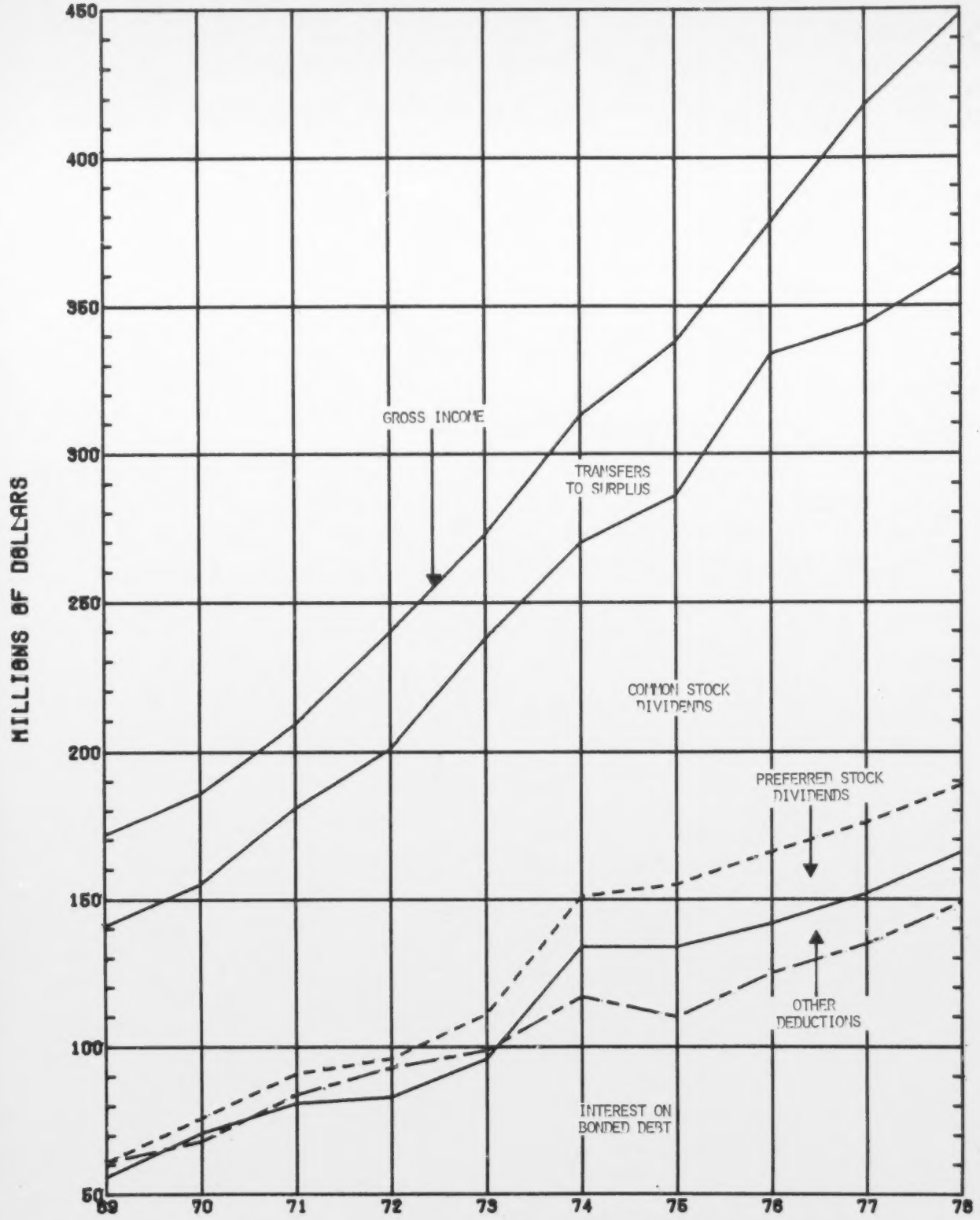
Total gross income of private utilities in Wisconsin totaled $448.2 million in 1978, 7% above the preceding year. Interest and related deductions absorbed $165.5 million, preferred stock dividends $23.8 million, dividends on common stock $173.5 million, and $85.5 million were carried to surplus.

Municipal utilities had $24.9 million in gross income in 1978, up 22% from preceding year. Interest and related charges amounted to $12.9 million, $1.3 million were appropriated to municipalities, and $10.8 million were carried to surplus.

Payments during 1978 on each class of security or equity, expressed as a percent of average book values at the beginning and close of the year are compared below:

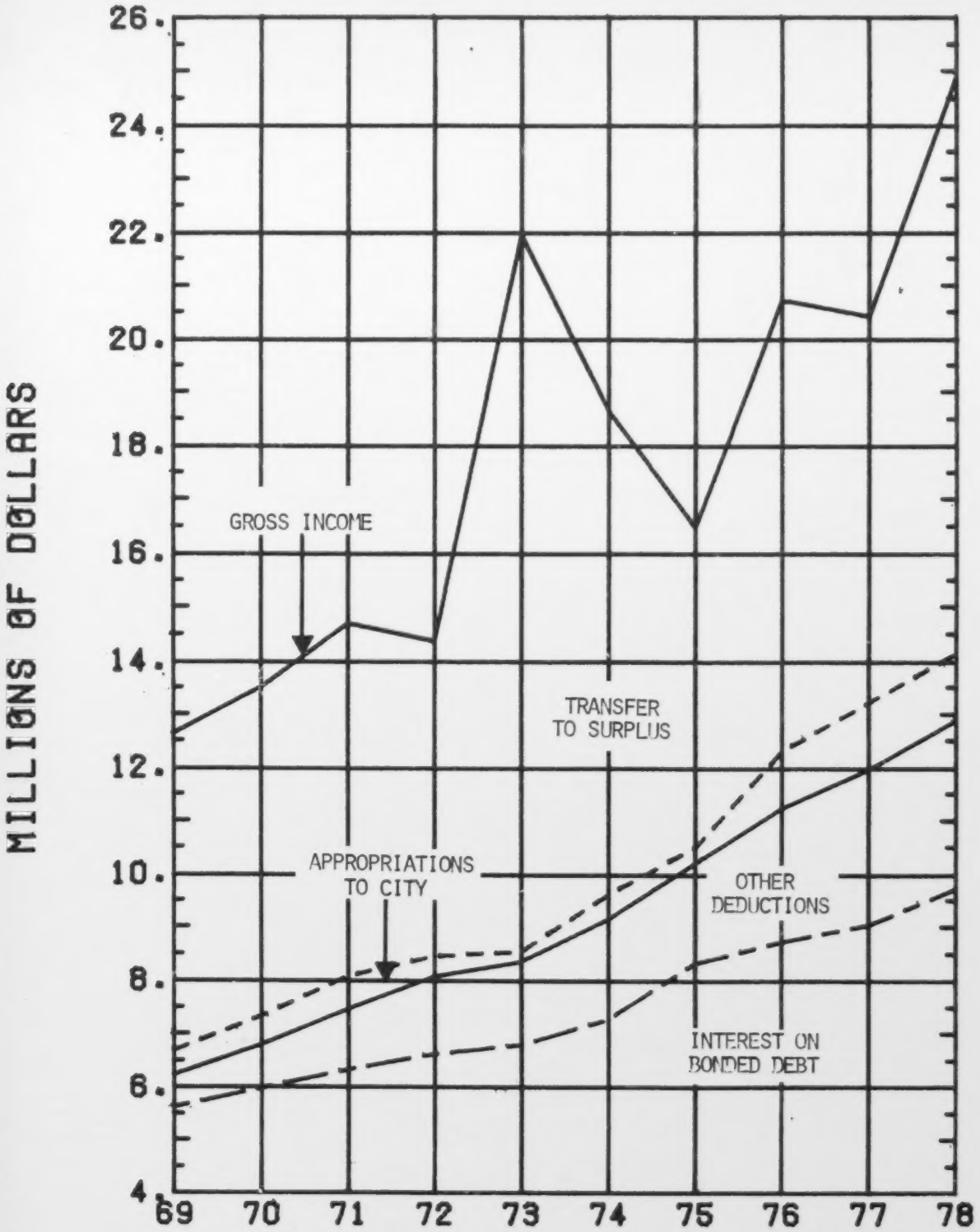
	Private Utilities	Municipal Utilities
Interest on Long-Term Debt Dividend by Long-Term Debt	6.92%	4.60%
Preferred Stock Dividends Divided by Preferred Stocks	6.40	0.00
Common Stock Dividends Divided by Common Stock	11.58	0.00
Appropriations to City Divided by Capital Paid in by Municipality	0.00	1.71
Common Stock Dividends Divided by Common Stock Plus Surplus	7.82	0.00
Appropriations to City Divided by Capital Paid in by Municipality Plus Surplus	0.00	0.34

CHART 8 - DISPOSITION OF GROSS INCOME** PRIVATE PUBLIC UTILITIES OPERATING IN WISCONSIN



**INCOME AVAILIABLE FOR INTEREST AND DIVIDENDS

CHART 9 - DISPOSITION OF GROSS INCOME**
MUNICIPAL PUBLIC UTILITIES OPERATING IN WISCONSIN



**INCOME AVAILIABLE FOR INTEREST AND APPROPRIATIONS TO CITY.

TABLE 1

SUMMARY OF UTILITY PLANT IN SERVICE AND
ACCUMULATED PROVISION FOR DEPRECIATION
PUBLIC UTILITIES OPERATING IN WISCONSIN 1/
1978-1976

	Dec. 31, 1978	Dec. 31, 1977	Dec. 31, 1976
All Utilities			
Utility Plant in Service 2/ 3/			
Electric	$3,567,611,381	$3,208,316,971	$3,070,918,386
Gas	829,937,324	797,191,069	769,879,114
Water	842,024,617	794,399,057	754,296,053
Sewer	139,043,139	113,908,880	86,541,246
Telephone	2,475,385,526	2,271,330,791	2,093,133,611
Heating	17,543,271	17,448,938	16,842,224
Total	$7,871,545,258	$7,202,595,706	$6,791,610,634
Accumulated Provision for Depreciation 2/ 3/			
Electric	$1,362,514,223	$1,220,793,093	$1,096,645,783
Gas	276,393,987	249,124,962	290,711,063
Water	168,558,573	157,643,345	143,078,433
Sewer	21,572,789	17,549,422	14,662,286
Telephone	544,022,550	498,390,297	450,406,630
Heating	7,203,741	6,613,873	6,198,212
Total	$2,380,265,863	$2,150,114,992	$2,001,702,407
Utility Plant Less Provision for Depreciation 2/ 3/			
Electric	$2,205,097,158	$1,987,523,878	$1,974,272,603
Gas	553,543,337	548,066,107	479,168,051
Water	673,466,044	636,755,712	611,217,620
Sewer	117,470,350	96,359,458	71,878,960
Telephone	1,931,362,976	1,772,940,494	1,642,726,981
Heating	10,339,530	10,835,065	10,644,012
Total	$5,491,279,395	$5,052,480,714	$4,789,908,227
Private Utilities			
Utility Plant in Service 2/ 3/			
Electric	$3,398,758,346	$3,050,011,968	$2,920,869,147
Gas	829,495,543	796,751,142	769,443,418
Water	16,198,141	15,264,971	14,371,830
Sewer	145,897	145,897	145,897
Telephone	2,475,385,526	2,271,330,791	2,093,133,611
Heating	17,455,529	17,364,054	16,757,834
Total	$6,737,438,982	$6,150,868,823	$5,814,721,737

TABLE 1 (Concluded)

SUMMARY OF UTILITY PLANT IN SERVICE AND
ACCUMULATED PROVISION FOR DEPRECIATION
PUBLIC UTILITIES OPERATING IN WISCONSIN 1/
1978-1976

	Dec. 31, 1978	Dec. 31, 1977	Dec. 31, 1976
Private Utilities (Cont.)			
Accumulated Provision for Depreciation 2/ 3/			
Electric	$1,290,420,497	$1,153,586,635	$1,034,113,082
Gas	276,268,544	249,012,885	290,612,403
Water	3,978,477	3,787,030	3,570,548
Sewer	46,198	43,553	40,909
Telephone	544,022,550	498,390,297	450,406,630
Heating	7,152,523	6,564,343	6,150,940
Total	$2,121,888,789	$1,911,384,743	$1,784,894,512
Utility Plant Less Provision for Depreciation 2/ 3/			
Electric	$2,108,337,849	$1,896,425,333	$1,886,756,065
Gas	553,226,999	547,738,257	478,831,015
Water	12,219,664	11,477,941	10,801,282
Sewer	99,699	102,344	104,988
Telephone	1,931,362,976	1,772,940,494	1,642,726,981
Heating	10,303,006	10,799,711	10,606,894
Total	$4,615,550,193	$4,239,484,080	$4,029,827,225
Municipal Utilities			
Utility Plant in Service 2/			
Electric	$ 168,853,035	$ 158,305,003	$ 150,049,239
Gas	441,781	439,927	435,696
Water	825,826,476	779,134,086	739,924,223
Sewer	138,897,242	113,762,983	86,395,349
Heating	87,742	84,884	84,390
Total	$1,134,106,276	$1,051,726,883	$ 976,888,897
Accumulated Provision for Depreciation 2/			
Electric	$ 72,093,726	$ 67,206,458	$ 62,532,701
Gas	125,443	112,077	98,660
Water	164,580,096	153,856,315	139,507,885
Sewer	21,526,591	17,505,869	14,621,377
Heating	51,218	49,530	47,272
Total	$ 258,377,074	$ 238,730,249	$ 216,807,895
Utility Plant Less Provision for Depreciation 2/			
Electric	$ 96,759,309	$ 91,098,545	$ 87,516,538
Gas	316,338	327,850	337,036
Water	661,246,380	625,277,771	600,416,338
Sewer	117,370,651	96,257,114	71,773,972
Heating	36,524	35,354	37,118
Total	$ 875,729,202	$ 812,996,634	$ 760,081,002

1/ Total plant includes out-of-state properties.
2/ Including apportionment of common property.
3/ Excluding utility plant leased to others.

TABLE 2

COMPARATIVE STATEMENT OF CAPITALIZATION
PUBLIC UTILITIES OPERATING IN WISCONSIN 1/
1978-1976

	Dec. 31, 1978	Dec. 31, 1977	Dec. 31, 1976
All Utilities			
Long-Term Debt Outstanding	$2,358,745,414	$2,220,306,328	$2,236,030,609
Advances from Affiliates or Municipality	129,362,262	86,737,296	92,226,814
Preferred Stock Outstanding	371,651,350	306,588,580	310,990,700
Common Stock Outstanding and Related Accounts	1,497,700,071	1,555,907,131	1,470,201,587
Capital Paid in by Municipality	73,445,944	70,558,861	65,343,959
Surplus	1,022,140,385	921,110,127	839,341,512
Customers' Advances in Aid of Construction	12,666,330	9,513,686	6,585,450
Contributions in Aid of Construction	399,055,753	356,441,045	316,097,009
Total	$5,864,767,509	$5,527,163,054	$5,336,817,640
Private Utilities			
Long-Term Debt Outstanding	$2,147,247,883	$2,025,702,579	$2,053,650,328
Advances from Affiliates	50,653,761	9,567,400	20,121,174
Preferred Stock Outstanding	371,651,350	306,588,580	310,990,700
Common Stock Outstanding and Related Accounts	1,497,700,071	1,555,907,131	1,470,201,587
Surplus	721,397,901	633,701,039	561,170,273
Customers' Advances in Aid of Construction	9,876,930	6,877,815	4,467,211
Contributions in Aid of Construction	45,873,657	37,572,623	30,619,783
Total	$4,844,401,553	$4,575,917,167	$4,451,221,056
Municipal Utilities			
Long-Term Debt Outstanding	$ 211,497,531	$ 194,603,749	$ 182,380,281
Advances from Municipality	78,708,501	77,169,896	72,105,640
Capital Paid in by Municipality	73,445,944	70,558,861	65,343,959
Surplus	300,742,484	287,409,088	278,171,239
Customers' Advances in Aid of Construction	2,789,400	2,635,871	2,118,239
Contributions in Aid of Construction	353,182,096	318,868,422	285,477,226
Total	$1,020,365,956	$ 951,245,887	$ 885,596,584

1/ These data necessarily represent total company figures. A few companies operate outside of Wisconsin. Electric, gas, water, sewer, heating and telephone utilities are included.

TABLE 3

DISPOSITION OF INCOME
PUBLIC UTILITIES OPERATING IN WISCONSIN 1/
1978-1976

	1978	1977	1976
All Utilities			
Net Operating Revenues			
Electric	$ 221,967,878	$ 205,199,389	$ 190,923,203
Gas	50,397,414	49,136,071	47,063,643
Telephone	154,213,433	128,866,261	115,044,959
Water	12,962,204	10,353,980	13,490,809
Sewer	22,651	(345,038)	(224,012)
Steam and Hot Water Heating	1,194,067	880,382	1,061,498
Total	$ 440,757,647	$ 394,091,045	$ 367,360,100
Income from Plant Leased to Others	345,362	497,172	19,760
Income from Merchandising and Jobbing	149,548	157,366	(140,064)
Other Income - Net	31,916,913	43,741,833	31,303,805
Gross Income	$ 473,169,470	$ 438,487,416	$ 398,543,601
Interest on Long-Term Debt	158,495,127	143,811,962	133,935,380
Amortization of Debt Discount and Premium	1,330,159	1,754,809	572,673
Interest on Debt to Associated Companies or City	6,527,567	5,374,366	4,995,652
Other Deductions	12,092,343	13,328,344	14,033,857
Net Income	$ 294,724,274	$ 274,217,935	$ 245,006,039
Dividend Appropriations on Preferred Stock	23,777,320	23,917,095	23,834,331
Dividend Appropriations on Common Stock 2/	173,460,866	167,913,095	167,392,613
Appropriations to City	1,257,307	1,248,834	1,063,435
Balance Transferred to Surplus	$ 96,228,781	$ 81,138,911	$ 52,715,660

(Continued)

TABLE 3 (Continued)

DISPOSITION OF INCOME
PUBLIC UTILITIES OPERATING IN WISCONSIN 1/
1978-1976

	1978	1977	1976
Private Utilities			
Net Operating Revenues			
Electric	$ 217,085,172	$ 199,762,479	$ 188,131,068
Gas	50,371,130	49,100,804	47,034,898
Telephone	154,213,433	128,866,261	115,044,959
Water	642,974	545,329	612,126
Sewer	(2,952)	(14)	3,449
Steam and Hot Water Heating	1,198,977	884,729	1,068,202
Total	$ 423,508,734	$ 379,159,588	$ 351,894,702
Income from Plant Leased to Others	344,462	496,272	18,860
Income from Merchandising and Jobbing	(4,611)	4,583	(274,327)
Other Income - Net	24,400,654	38,404,446	26,181,847
Gross Income	$ 448,249,239	$ 418,064,889	$ 377,821,082
Interest on Long-Term Debt	148,756,148	134,748,114	125,201,420
Amortization of Debt Discount and Premium	1,080,479	1,590,307	431,792
Interest on Debt to Associated Companies	3,334,300	2,321,197	2,282,389
Other Deductions	12,365,858	13,621,168	14,373,743
Net Income	$ 282,712,454	$ 265,784,103	$ 235,531,738
Dividend Appropriations on Preferred Stock	23,777,320	23,917,095	23,834,331
Dividend Appropriations on Common Stock 2/	173,460,866	167,913,095	167,392,613
Balance Transferred To Surplus	$ 85,474,268	$ 73,953,913	$ 44,304,794

TABLE 3 (Concluded)

DISPOSITION OF INCOME
PUBLIC UTILITIES OPERATING IN WISCONSIN 1/
1978-1976

	1978	1977	1976
Municipal Utilities			
Net Operating Revenues			
Electric	$ 4,882,706	$ 5,436,910	$ 2,792,135
Gas	26,284	35,267	28,745
Water	12,319,230	9,808,651	12,878,683
Sewer	25,603	(345,024)	(227,461)
Steam and Hot Water Heating	(4,910)	(4,347)	(6,704)
Total	$ 17,248,913	$ 14,931,457	$ 15,465,398
Income from Plant Leased to Other	900	900	900
Income from Merchandising and Jobbing	154,159	152,783	134,263
Other Income - Net	7,516,259	5,337,387	5,121,958
Gross Income	$ 24,920,231	$ 20,422,527	$ 20,722,519
Interest on Long-Term Debt	9,738,979	9,063,848	8,733,960
Amortization of Debt Discount and Premium	249,680	164,502	140,881
Interest on Debt to City	3,193,267	3,053,169	2,713,263
Other Deductions	(273,515)	(292,824)	(339,886)
Net Income	$ 12,011,820	$ 8,433,832	$ 9,474,301
Appropriations to City	1,257,307	1,248,834	1,063,435
Balance Transferred To Surplus	$ 10,754,513	$ 7,184,998	$ 8,410,866

1/ Includes out-of-state operations of Wisconsin utilities.

ELECTRIC UTILITY STATISTICS

Comparative statistics of Wisconsin electric utilities for the 3-year period, 1976 to 1978, are summarized in this section. Out-of-state operations are excluded (except in tables 7, 8 and 9 where data on out-of-state sales, purchases and generating plant are presented).

The following tables and charts present the data covering electric utility operations:

Table 4 - Comparative Statement of Revenues and Expenses, 1978-1976
Table 5 - Sales to Ultimate Consumers, 1978-1976
Table 6 - Comparative Statement of Operating Expenses, 1978-1976
Table 7 - Summary of Megawatt Hours Sold and Used, 1978-1976
Table 8 - Megawatt Hours Generated and Purchased, 1978-1976
Table 9 - Generating Plant, Substation and Transmission Line Data, 1978-1976
Table 10 - Condensed Summary of 1978 Operations - Individual Private Electric Utilities
Table 11 - Condensed Summary of 1978 Operations - Individual Municipal Electric Utilities
Chart 10 - Residential Revenue and Consumption Ratios, Wisconsin and United States, 1969-1978.
Chart 11 - Comparison of Revenues and Expenses, Wisconsin Electric Utilities, 1969-1978.
Chart 12 - Revenues from Sales to Ultimate Consumers by Individual Wisconsin Electric Utilities, Percent of Total, 1978.

Electric Consumers

The total number of ultimate (retail) electric consumers increased 2.6% over 1977. Residential customers increased 2.5% and rural customers increased 4.6%. Commercial and industrial customers increased 1.6%.

As has already been pointed out, electric cooperatives are not included in the tables. These organizations served an estimated 150,000 customers during 1978. This was 52% of all rural electric customers served in the state.

Revenue and Consumption Ratios

Kilowatt hours sold to ultimate consumers in Wisconsin rose 5.1% during 1978. Commercial and industrial consumption rose 6.4% during the year while rural and residential consumption increased 4.5% and 3.1% respectively.

State-wide averages by class of service for revenue per kilowatt hour are compared below:

	1978	1977	1976
Residential	3.99¢	3.71¢	3.53¢
Commercial and Industrial	3.18	2.99	2.84
Rural	4.06	3.87	3.75
Public St. and Hwy. Lighting	4.46	4.15	4.01
Other Sales to Public Auth.	3.06	2.90	2.55
Interdepartmental Sales	2.88	2.60	2.49
Total Ultimate Consumers	3.48¢	3.26¢	3.11¢

State-Wide average ratios of kilowatt hour consumption per customer and revenue per customer are compared below for the three major classes of service:

	1978	1977	1976
Average Annual Use (kWh)			
Residential	7,002	6,961	6,858
Commercial and Industrial	122,937	117,393	111,912
Rural	13,644	13,662	13,080
Average Annual Bill			
Residential	$ 279.25	$ 258.23	$ 242.33
Commercial and Industrial	3,911.92	3,507.20	3,179.20
Rural	553.32	528.85	490.16

Average annual use for residential customers increased by 0.6%, commercial and industrial increased by 4.7% but rural decreased by 0.1%. Average annual bills were up by 8.1%, 11.5% and 4.6% respectively for the three classes of service.

Residential revenue and consumption ratios of Wisconsin utilities are compared with national averages over a 10-year period in Chart 10. In 1978, the average Wisconsin residential customer consumed 20.9% fewer kilowatt hours and paid an average bill that was 21.7% less than the national average.

Electric Utility Income Account

A summary of the income account of Wisconsin electric utilities for the past three years is presented in Table 4. A 10-year graphic comparison is made in Chart 11.

Operating revenues continue to rise steadily with 1978 revenues up 12.1% over 1977. Total operating expenses increased 12.7% and net operating revenues were up 9.3%.

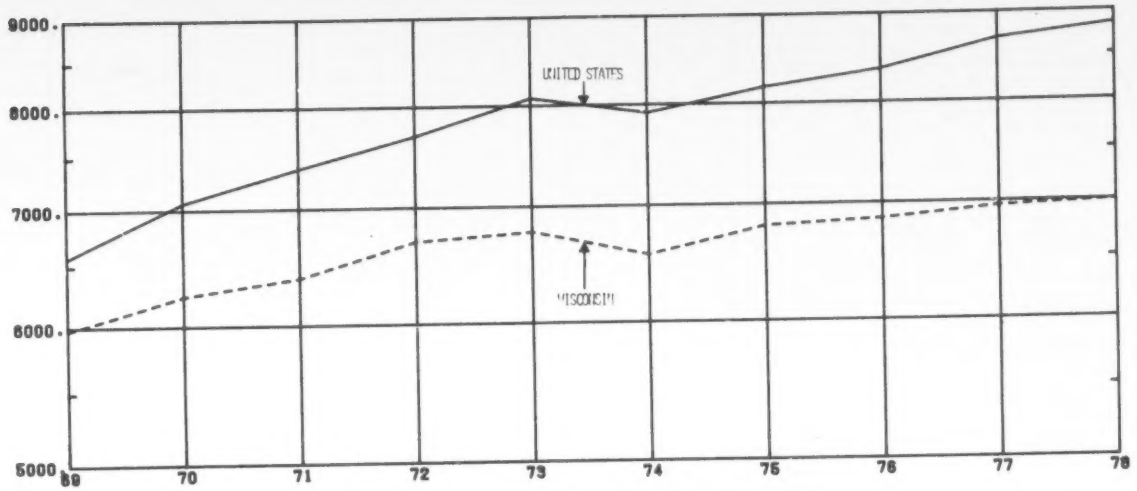
Table 6 presents a detailed analysis of operating expenses, exclusive of depreciation and taxes. Of the classes of expense shown, production had the greatest increase which was 18.1%. Sales was least with a 15.3% decrease.

A comparison of certain expense ratios of private and municipal utilities in 1978 is presented below:

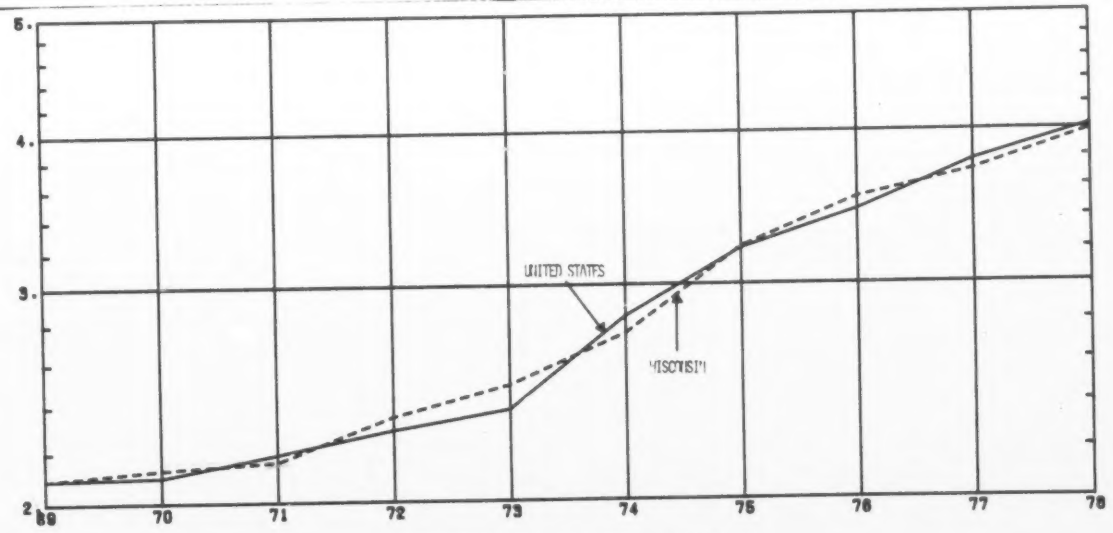
	1978 Expense Ratios					
	Per Dollar of Revenue		Per Average Customer		Per mWh Sold	
	Pvt.	Mun.	Pvt.	Mun.	Pvt.	Mun.
Production and Trans.	50.31¢	78.10¢	$358.01	$504.81	$18.07	$26.36
Distribution	5.68	3.17	40.40	20.51	2.04	1.07
Customer Accounts	1.91	1.61	13.63	10.43	0.69	0.54
Customer Services	0.45	0.00	3.17	0.00	0.16	0.00
Sales Promotion 1/	0.13	0.01	0.94	0.08	0.05	0.01
Administrative and General	6.69	4.74	47.61	30.61	2.40	1.60
Total Oper. and Main.	65.17¢	87.63¢	$463.76	$566.44	$23.41	$29.58
Depreciation	11.83	4.91	84.19	31.75	4.25	1.66
Taxes Other than Income Taxes	5.64	3.15	40.15	20.33	2.03	1.06
Income Taxes	10.28	0.00	73.19	0.00	3.69	0.00
Total Operating	92.92¢	95.69¢	$661.29	$618.52	$33.38	$32.30

1/ Includes customer service expenses for municipally owned utilities.

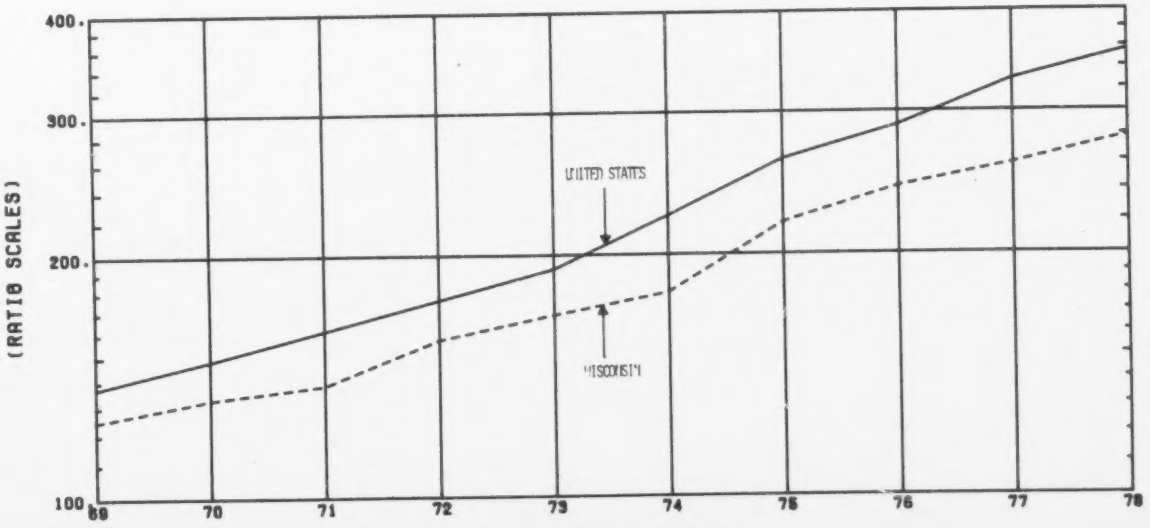
CHART 10
WISCONSIN AND U.S. RESIDENTIAL REVENUE AND CONSUMPTION RATIOS



ANNUAL KILOWATT HOUR SALES PER CUSTOMER

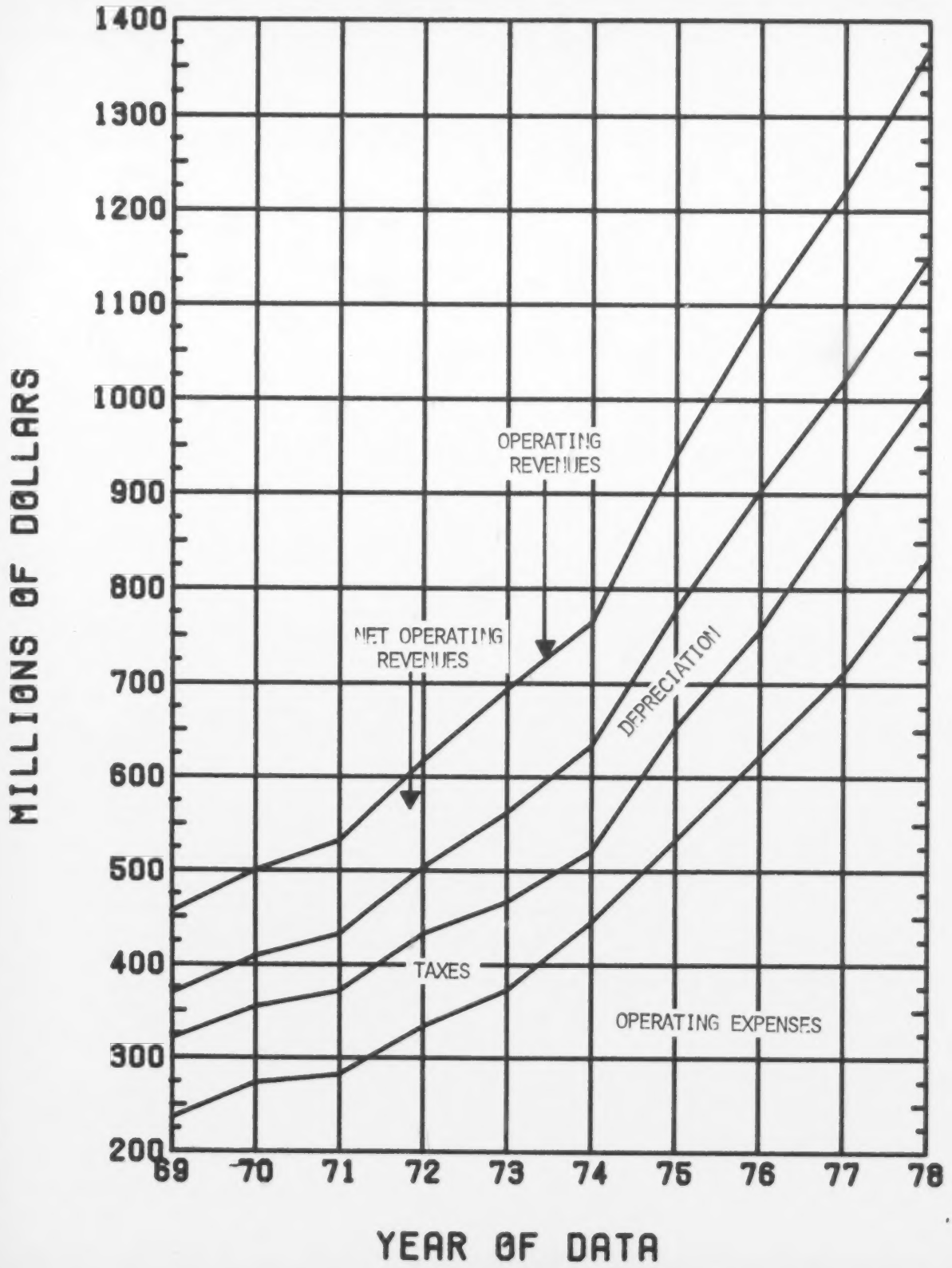


REVENUE PER KILOWATT HOUR



REVENUE PER CUSTOMER

CHART 11
WISCONSIN ELECTRIC UTILITIES REVENUES AND EXPENSES



In addition to the above breakdown of operating expense, Table 6 presents the detail of production expense on a company-wide basis. If this breakdown is related to corresponding data on generation and purchases, the following comparison of costs per kilowatt hour, exclusive of fixed charges, results:

	Production Expense* Per Megawatt Hour Generated or Purchased 1978	
	Private Utilities	Municipal Utilities
Steam Plants-Nuclear Fuel	$ 5.32	$ 0.00
Steam Plants-Fossil Fuel	16.77	33.21
Hydro Electric Plants	3.70	2.46
Internal Combustion (Recip. & Turbine)	37.80	39.54
Purchased Energy	22.68	24.07

* Excludes depreciation, taxes, and return.

Kilowatt Hours Generated and Purchased; Fuel Consumed

The sources of energy of Wisconsin electric utilities are summarized in Table 8. The net generation by plants located in Wisconsin is compared below on a percentage basis over a period of ten years:

	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
Steam-Nuclear	34.3%	33.3%	33.0%	33.4%	27.5%	20.1%	11.3%	12.8%	0.0%	0.0%
Steam-Fossil	58.1	60.8	60.9	59.5	63.8	70.5	80.3	79.6	92.7	91.8
Hydro	5.1	4.2	3.6	4.8	5.0	6.2	6.6	6.2	5.7	6.7
Int. Comb.-Recip.	0.2	0.1	0.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Int. Comb.-Turbine	2.3	1.6	1.9	2.1	3.5	3.0	1.6	1.2	1.4	1.3
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

During the ten years covered, fossil steam generating plants have produced a major but generally declining portion of the State's electric energy, varying from a high of 92.7% in 1970 to a low of 58.1% in 1978. Internal combustion turbine plants are being used in increasing numbers as peaking units. There were sixteen units in operation at the end of 1978 as compared to only eleven in 1969. Privately owned utilities generated 98.4% of total energy produced by utilities in 1978. The most significant change has been the nuclear plants which generated no energy in 1970 but now produce about one-third of the total.

Fuel consumption ratios over the past five years are presented below:

	1978	1977	1976	1975	1974
BTU's of Fuel Used in Nuclear Steam Plants Per kWh Generated (Net)	10,554	10,491	10,550	10,806	10,898
BTU's of Fuel Used in Fossil Steam Plants Per kWh Generated (Net)	11,271	10,931	10,839	11,066	11,000
BTU's of Fuel Used in Turbine Plants Per kWh Generated (Net)	13,792	14,538	14,439	14,948	14,135
BTU's of Fuel Used in Reciprocating Plants Per kWh Generated (Net)	10,688	9,489	12,249	10,238	10,655

Generating Plant and Transmission Line Data

Data on the capacity of generating plants and miles of transmission pole line are presented in Table 9. The total capacity of all generating plants operated by Wisconsin utilities as of December 1978 was about 9,000 megawatts of which about 91 megawatts were in plants located outside the State. Of the capacity of plants located in Wisconsin, 17.1% is steam-nuclear, 63.7% is steam-fossil, 3.9% is hydro, 1.1% is by reciprocating engines, and 14.2% is turbine.

About 9,500 miles of transmission line were in service at the close of 1978 of which about 4,000 miles carry voltages in excess of 100,000 volts.

Data on Individual Utilities

Table 10 presents selected operating data covering the year 1978 for each Class A, B, and C private electric utility in the State and Table 11 presents similar data on each Class A, B, and C municipal electric utility. Chart 12 shows the percentage distribution by companies of electric operating revenue from sales to ultimate consumers. Four large private utilities account for 81.8% of the total. Municipal utilities make up 9.2%.

Table 10 shows that private utilities as a group generated a large part of their energy requirements while Table 11 shows that municipal utilities purchase most of their requirements. Of the 64 individual municipal utilities listed, only 16 generated some electricity.

CHART 12

Revenues of Wisconsin Electric Utilities
In Percent of Total Sales to Ultimate Consumers
1978

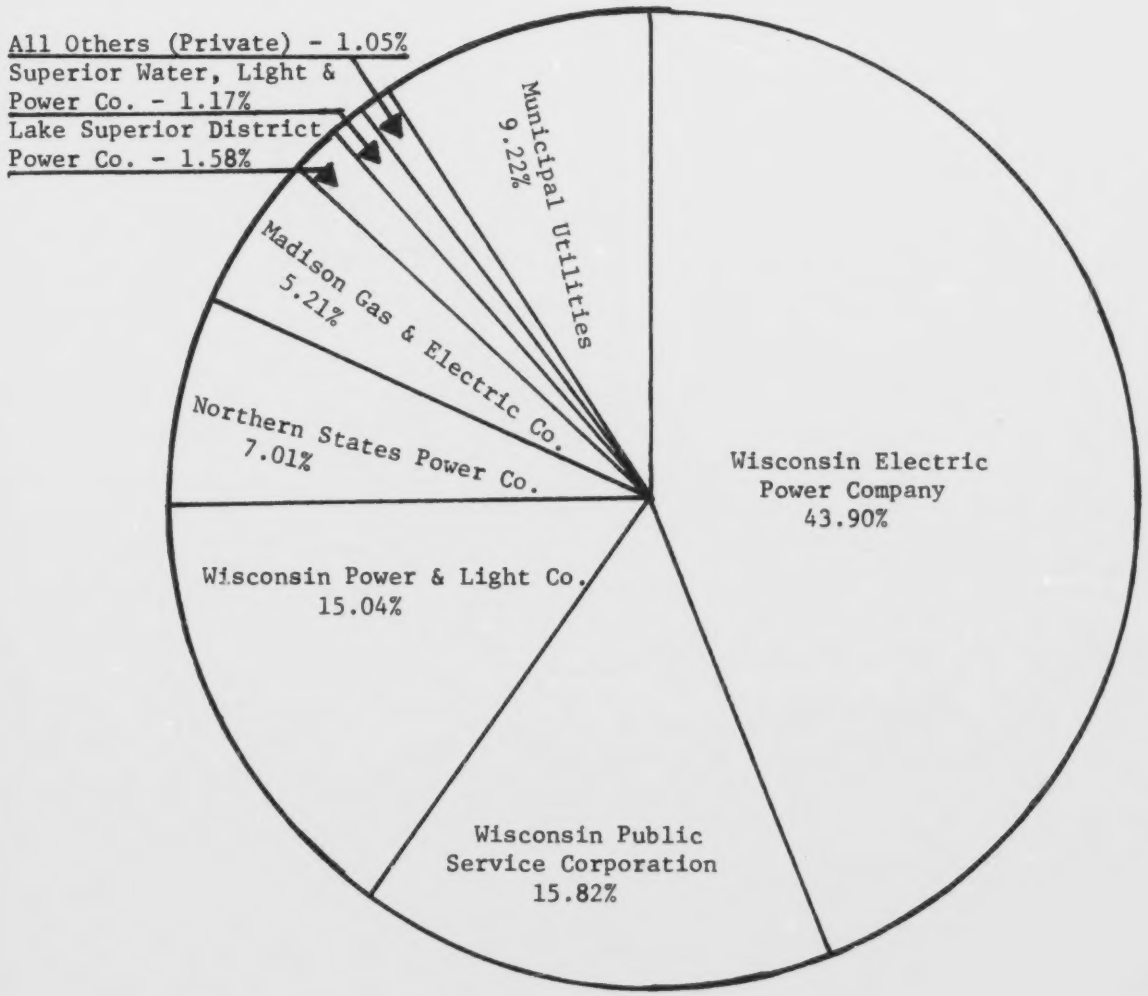

All Others (Private) - 1.05%
Superior Water, Light & Power Co. - 1.17%
Lake Superior District Power Co. - 1.58%
Municipal Utilities 9.22%
Madison Gas & Electric Co. 5.21%
Northern States Power Co. 7.01%
Wisconsin Power & Light Co. 15.04%
Wisconsin Public Service Corporation 15.82%
Wisconsin Electric Power Company 43.90%

TABLE 4

COMPARATIVE STATEMENT OF REVENUES AND EXPENSES
WISCONSIN ELECTRIC UTILITIES 1/
1978-1976

	1978	1977	1976
All Electric Utilities			
Operating Revenues			
Sales to Ultimate Consumers	$1,203,672,135	$1,074,581,080	$ 975,627,650
Sales to Other Utilities	116,812,301	103,238,969	83,924,949
Sales to Electric Cooperatives	7,903,999	6,395,096	2,990,766
Miscellaneous Revenues	41,634,958	37,430,762	29,452,675
Total Operating Revenues	$1,370,023,393	$1,221,645,907	$1,091,996,040
Operating Revenue Deductions			
Operation and Maintenance	$ 830,908,139	$ 711,948,340	$ 622,372,679
Depreciation and Amortization	138,377,797	134,425,223	146,869,377
Taxes Other than Income Taxes	66,910,979	64,018,190	58,489,695
Income Taxes	115,459,589	111,556,641	76,260,109
Total Operating Expenses	$1,151,656,504	$1,021,948,394	$ 903,991,860
Net Operating Revenues	$ 218,366,889	$ 199,697,513	$ 188,004,180
Private Electric Utilities			
Operating Revenues			
Sales to Ultimate Consumers	$1,092,675,008	$ 977,419,786	$ 888,070,632
Sales to Other Utilities	115,832,964	102,586,892	83,451,095
Sales to Electric Cooperatives	7,903,999	6,395,096	2,990,766
Miscellaneous Revenues	40,345,875	36,340,543	28,326,385
Total Operating Revenues	$1,256,757,846	$1,122,742,317	$1,002,838,878
Operating Revenue Deductions			
Operation and Maintenance	$ 731,650,081	$ 627,162,266	$ 544,283,099
Depreciation and Amortization	132,814,954	129,266,929	142,004,128
Taxes Other than Income Taxes	63,349,039	60,496,058	55,079,497
Income Taxes	115,459,589	111,556,641	76,260,109
Total Operating Expenses	$1,043,273,663	$ 928,481,894	$ 817,626,833
Net Operating Revenues	$ 213,484,183	$ 194,260,423	$ 185,212,045

(Continued)

TABLE 4 (Concluded)

COMPARATIVE STATEMENT OF REVENUES AND EXPENSES
WISCONSIN ELECTRIC UTILITIES 1/
1978-1976

	1978	1977	1976
Municipal Electric Utilities			
Operating Revenues			
Sales to Ultimate Consumers	$ 110,997,127	$ 97,161,294	$ 87,557,018
Sales to Other Electric Utilities	979,337	652,077	473,854
Sales to Electric Cooperatives	0	0	0
Miscellaneous Operating Revenues	1,289,083	1,090,219	1,126,290
Total Operating Revenues	$ 113,265,547	$ 98,903,590	$ 89,157,162
Operating Revenue Deductions			
Operation and Maintenance	$ 99,258,058	$ 84,786,074	$ 78,089,580
Depreciation and Amortization	5,562,843	5,158,294	4,865,249
Taxes Other than Income Taxes	3,561,940	3,522,132	3,410,198
Total Operating Expenses	$ 108,382,841	$ 93,466,500	$ 86,365,027
Net Operating Revenues	$ 4,882,706	$ 5,437,090	$ 2,792,135

1/ Excluding out-of-state operations.

TABLE 5

SALES TO ULTIMATE CONSUMERS BY CLASS
WISCONSIN ELECTRIC UTILITIES 1/
1978-1976

	1978	1977	1976
All Electric Utilities			
Revenues			
Residential	$ 400,191,471	$ 360,922,109	$331,536,391
Commercial and Industrial	690,543,003	609,341,514	547,509,702
Rural	76,351,059	69,755,878	64,445,321
Public Street and Highway Lighting	21,048,293	19,868,955	18,784,440
Other Sales to Public Authorities	13,334,911	12,518,682	11,478,594
Interdepartmental Sales	2,203,398	2,173,942	1,873,202
Total Revenue from Ultimate Consumers	$1,203,672,135	$1,074,581,080	$975,627,650
Megawatt Hours Sold			
Residential	10,034,650	9,729,577	9,382,764
Commercial and Industrial	21,701,192	20,395,997	19,272,952
Rural	1,882,706	1,801,993	1,719,699
Public Street and Highway Lighting	472,363	478,194	468,301
Other Sales to Public Authorities	436,444	431,546	449,246
Interdepartmental Sales	76,514	83,586	75,338
Total Megawatt Hours Sold to Ultimate Consumers	34,603,869	32,920,893	31,368,300
Average Number of Customers 2/			
Residential	1,433,108	1,397,662	1,368,119
Commercial and Industrial	176,523	173,740	172,216
Rural	137,987	131,901	131,478
Public Street and Highway Lighting	3,778	3,304	3,608
Other Sales to Public Authorities	1,364	1,311	1,253
Interdepartmental Sales	108	104	109
Total Ultimate Consumers	1,752,868	1,708,022	1,676,783

(Continued)

TABLE 5 (Continued)

SALES TO ULTIMATE CONSUMERS BY CLASSES
WISCONSIN ELECTRIC UTILITIES 1/
1978-1976

	1978	1977	1976
Private Electric Utilities			
Revenues			
Residential	$ 365,381,109	$ 329,856,903	$303,086,126
Commercial and Industrial	626,882,523	554,539,895	498,792,950
Rural	68,832,748	63,084,126	58,293,748
Public Street and Highway Lighting	18,515,539	17,473,303	16,403,474
Other Sales to Public Authorities	12,267,100	11,564,164	10,704,483
Interdepartmental Sales	795,989	901,395	789,851
Total Revenue from Ultimate Consumers	$1,092,675,008	$ 977,419,786	$888,070,632
Megawatt Hours Sold			
Residential	9,021,572	8,752,622	8,422,209
Commercial and Industrial	19,681,422	18,526,581	17,513,176
Rural	1,678,478	1,614,232	1,537,644
Public Street and Highway Lighting	427,018	433,067	421,038
Other Sales to Public Authorities	407,685	403,443	425,082
Interdepartmental Sales	32,428	38,602	34,407
Total Megawatt Hours Sold to Ultimate Consumers	31,248,603	29,768,547	28,353,556
Average Number of Customers 2/			
Residential	1,298,248	1,265,996	1,239,212
Commercial and Industrial	153,984	151,396	150,134
Rural	121,245	115,597	115,587
Public Street and Highway Lighting	3,169	3,159	3,184
Other Sales to Public Authorities	984	960	915
Interdepartmental Sales	8	8	9
Total Ultimate Consumers	1,577,638	1,537,116	1,509,041

(Continued)

TABLE 5 (Concluded)

SALES TO ULTIMATE CONSUMERS BY CLASSES
WISCONSIN ELECTRIC UTILITIES 1/
1978-1976

	1978	1977	1976
Municipal Electric Utilities			
Revenues			
Residential	$ 34,810,362	$ 31,065,206	$ 28,450,265
Commercial and Industrial	63,660,480	54,801,619	48,716,752
Rural	7,518,311	6,671,752	6,151,573
Public Street and Highway Lighting	2,532,754	2,395,652	2,380,966
Other Sales to Public Authorities	1,067,811	954,518	774,111
Interdepartmental Sales	1,407,409	1,272,547	1,083,351
Total Revenue from Ultimate Consumers	$ 110,997,127	$ 97,161,294	$ 87,557,018
Megawatt Hours Sold			
Residential	1,013,078	976,955	960,555
Commercial and Industrial	2,019,770	1,869,416	1,759,776
Rural	204,228	187,761	182,055
Public Street and Highway Lighting	45,345	45,127	47,263
Other Sales to Public Authorities	28,759	28,103	24,164
Interdepartmental Sales	44,086	44,984	40,931
Total Megawatt Hours Sold to Ultimate Consumers	3,355,266	3,152,346	3,014,744
Average Number of Customers 2/			
Residential	134,860	131,666	128,907
Commercial and Industrial	22,539	22,344	22,082
Rural	16,742	16,304	15,891
Public Street and Highway Lighting	609	145	424
Other Sales to Public Authorities	380	351	338
Interdepartmental Sales	100	96	100
Total Ultimate Consumers	175,230	170,906	167,742

1/ Excluding out-of-state operations.
2/ Heating, cooking and yard lighting customers on separate rates are not included in customer data, as they would be duplications.

TABLE 6

COMPARATIVE STATEMENT OF OPERATION AND MAINTENANCE EXPENSES
WISCONSIN ELECTRIC UTILITIES 1/
1978-1976

	1978	1977	1976
All Electric Utilities			
Production Expense-Total Company			
Steam-Nuclear Fuel	$ 61,449,200	$ 56,505,117	$ 60,418,777
Steam-Fossil Fuel	334,569,574	286,310,063	253,111,323
Hydraulic	7,948,129	6,872,426	6,772,838
Int. Comb.-Recip. and Turbine	31,377,949	20,826,098	19,475,815
Purchases or Net Interchanges	215,624,385	133,659,650	98,572,395
Other Power Supply	2,518,170	48,391,764	46,763,982
Total Production Expense	$653,487,407	$552,565,118	$485,115,130
Amount Applicable to Out-of-State Sales	12,754,281	9,918,300	9,564,586
Amount Applicable to Wisconsin Sales	$640,733,126	$542,646,818	$475,550,544
Operation and Maintenance - Wisconsin Only			
Production	$640,733,126	$542,646,818	$475,550,544
Transmission 2/	12,533,061	12,527,488	11,181,586
Distribution 2/	67,328,850	58,914,865	52,921,984
Customer Accounts	23,338,430	21,601,770	19,575,388
Sales Promotion 3/	1,498,513	1,768,390	4,030,196
Customer Service	4,999,986	4,241,184	0
Administrative and General	80,476,173	70,247,825	59,112,981
Total	$830,908,139	$711,948,340	$622,372,679
Private Electric Utilities			
Production Expense - Total Company			
Steam-Nuclear Fuel	$ 61,449,200	$ 56,505,117	$ 60,418,777
Steam-Fossil Fuel	322,475,523	273,973,318	241,028,356
Hydraulic	7,646,831	6,607,003	6,504,949
Int. Comb-Recip. and Turbine	29,318,144	19,128,376	17,728,052
Purchases or Net Interchanges	141,929,647	73,011,336	44,101,701
Other Power Supply	2,486,505	48,376,800	46,761,381
Total Production Expense	$565,305,850	$477,601,950	$416,543,216
Amount Applicable to Out-of-State Sales	12,754,281	9,918,300	9,564,586
Amount Applicable to Wisconsin Sales	$552,551,569	$467,683,650	$406,978,630
Operation and Maintenance Wisconsin Only			
Production	$552,551,569	$467,683,650	$406,978,630
Transmission 2/	12,256,005	12,364,925	11,116,174
Distribution 2/	63,734,851	55,480,355	49,280,273
Customer Accounts	21,510,084	19,984,040	18,072,301
Sales Promotion 3/	1,485,539	1,752,618	4,014,486
Customer Service	4,999,986	4,241,184	0
Administrative and General	75,112,047	65,655,494	54,821,235
Total	$731,650,081	$627,162,266	$544,283,099

TABLE 6 (Concluded)

COMPARATIVE STATEMENT OF OPERATION AND MAINTENANCE EXPENSES
WISCONSIN ELECTRIC UTILITIES 1/
1978-1976

	1978	1977	1976
Municipal Electric Utilities			
Production Expense			
Steam-Fossil Fuel	$ 12,094,051	$ 12,336,745	$ 12,082,967
Hydraulic	301,298	265,423	267,889
Int. Com-Recip. and Turbine	2,059,805	1,697,722	1,747,763
Purchases or Net Interchanges	73,694,738	60,648,314	54,470,694
Other Power Supply	31,665	14,964	2,601
Total Production Expense	$ 88,181,557	$ 74,963,168	$ 68,571,914
Transmission 2/	277,056	162,563	65,412
Distribution 2/	3,593,999	3,434,510	3,641,711
Customer Accounts	1,828,346	1,617,730	1,503,087
Sales	12,974	15,772	15,710
Administrative and General	5,364,126	4,592,331	4,291,746
Total	$ 99,258,058	$ 84,786,074	$ 78,089,580

1/ Out-of-state operations of Wisconsin Utilities are not included except in detail of production expenses, as indicated.
2/ Transmission and distribution expenses are combined in the Class D report forms. These utilities are assumed to have no transmission expense.
3/ Includes customer service expense in 1976.

TABLE 7

SUMMARY OF MEGAWATT HOURS SOLD AND USED
WISCONSIN ELECTRIC UTILITIES
1978-1976

	1978	1977	1976
All Electric Utilities			
mWh Sold to Ultimate Customers (Wisconsin Only)	34,603,869	32,920,892	31,368,300
mWh Sold to Other Electric Utilities and Cooperatives			
Wisconsin Electric Utilities	4,260,238	3,718,685	3,543,644
Electric Cooperatives	288,578	278,660	271,449
Total Sold to Other Electric Utilities and Cooperatives	4,548,816	3,997,345	3,815,093
mWh Used by Utilities 1/	98,903	99,897	88,391
Total mWh Sold or Used in Wisconsin	39,251,588	37,018,134	35,271,784
mWh Sold Outside Wisconsin by Wisconsin Utilities 2/	1,224,943	1,403,443	1,212,601
Total mWh Sold or Used	40,476,531	38,421,577	36,484,385
mWh Unaccounted for	3,004,274	2,670,235	2,825,642
Total mWh Generated and Purchased	43,480,805	41,091,812	39,310,027

(Continued)

TABLE 7 (Continued)

SUMMARY OF MEGAWATT HOURS SOLD AND USED
WISCONSIN ELECTRIC UTILITIES
1978-1976

	1978	1977	1976
Private Electric Utilities			
mWh Sold to Ultimate Customers (Wisconsin Only)	31,248,603	29,768,547	28,353,556
mWh Sold to Other Electric Utilities and Cooperatives			
Wisconsin Electric Utilities	4,213,491	3,691,689	3,525,616
Electric Cooperatives	288,578	278,660	271,449
Total Sold to Other Electric Utilities and Cooperatives	4,502,069	3,970,349	3,797,065
mWh Used by Utilities 1/	94,605	94,720	82,448
Total mWh Sold or Used in Wisconsin	35,845,277	33,833,616	32,233,069
Total mWh Sold Outside Wisconsin by Wisconsin Utilities 2/	1,224,943	1,403,443	1,212,601
Total mWh Sold or Used	37,070,220	35,237,059	33,445,670
mWh Unaccounted for	2,809,645	2,486,464	2,652,866
Total mWh Generated and Purchased	39,879,865	37,723,523	36,098,536

(Continued)

TABLE 7 (Concluded)

SUMMARY OF MEGAWATT HOURS SOLD AND USED
WISCONSIN ELECTRIC UTILITIES
1978-1976

	1978	1977	1976
Municipal Electric Utilities			
mWh Sold to Ultimate Consumers	3,355,266	3,152,345	3,014,744
mWh Sold to Other Electric Utilities and Cooperatives			
Wisconsin Electric Utilities	46,747	26,996	18,028
Electric Cooperatives	0	0	0
Total Sold to Other Electric Utilities and Cooperatives	46,747	26,996	18,028
mWh Used by Utilities 1/	4,298	5,177	5,943
Total mWh Sold or Used	3,406,311	3,184,518	3,038,715
mWh Unaccounted for	194,629	183,771	172,776
Total mWh Generated and Purchased	3,600,940	3,368,289	3,211,491

1/ Excluding interdepartmental sales.
2/ Includes sales to out-of-state utilities delivered in Wisconsin and at the state line.

TABLE 8

MEGAWATT HOURS GENERATED AND PURCHASED
WISCONSIN ELECTRIC UTILITIES
1978-1976

All Electric Utilities	1978	1977	1976
Net Generation in Wisconsin			
Steam - Nuclear	11,543,934	10,855,489	10,549,345
Steam - Fossil Fuel	19,598,846	19,828,402	19,438,755
Hydraulic	1,734,196	1,360,821	1,154,918
Internal Combustion - Recip.	55,615	42,444	45,985
Internal Combustion - Turbine	772,103	506,616	619,076
Total	33,704,694	32,593,772	31,808,079
Net Generation Outside Wisconsin by Wisconsin Companies			
Hydraulic	455,305	375,956	392,503
Total Megawatt Hours Generated			
Steam - Nuclear	11,543,934	10,855,489	10,549,345
Steam - Fossil Fuel	19,598,846	19,828,402	19,438,755
Hydraulic	2,189,501	1,736,777	1,547,421
Internal Combustion - Recip.	55,615	42,444	45,985
Internal Combustion - Turbine	772,103	506,616	619,076
Total	34,159,999	32,969,728	32,200,582
Megawatt Hours Purchased Plus Net Interchanges			
From Wisconsin Electric Utilities	4,295,076	3,062,039	3,012,593
From Out-of-State Electric Utils.1/	4,082,791	4,098,258	3,225,082
From Electric Cooperatives	672,066	858,881	738,585
From Other Non-Utility Companies	270,873	102,906	133,185
Total	9,320,806	8,122,084	7,109,445
Total Megawatt Hours Generated and Purchased	43,480,805	41,091,812	39,310,027
Tons of Coal Used in Steam Plants	9,915,180	9,762,403	9,307,257
Gallons of Fuel Oil Used in Steam Plants	57,585,892	41,045,126	32,870,172
Therms of Natural Gas Used in Steam Plants	40,566,748	22,603,998	64,108,244
Gallons of Fuel Oil Used in Internal Combustion-Recip. Plts.	2,779,628	1,813,587	1,256,147
Therms of Natural Gas Used in Internal Combustion-Recip. Plts.	236,205	276,396	2,078,987
Gallons of Fuel Oil Used in Internal Combustion-Turbine Plts.	50,445,827	35,076,526	26,893,662
Therms of Natural Gas Used in Internal Combustion-Turbine Plts.	37,925,518	36,159,883	60,745,229

TABLE 8 (Continued)

MEGAWATT HOURS GENERATED AND PURCHASED
WISCONSIN ELECTRIC UTILITIES
1978-1976

Private Electric Utilities	1978	1977	1976
Net Generation in Wisconsin			
Steam - Nuclear Fuel	11,543,934	10,855,489	10,549,345
Steam - Fossil Fuel	19,234,731	19,362,928	18,908,764
Hydraulic	1,611,573	1,269,315	1,060,423
Internal Combustion - Recip.	8,900	4,893	2,739
Internal Combustion - Turbine	766,719	501,092	601,804
Total	33,165,857	31,993,717	31,123,075
Net Generation Outside Wisconsin by Wisconsin Companies			
Hydraulic	455,305	375,956	392,503
Total Megawatt Hours Generated			
Steam - Nuclear Fuel	11,543,934	10,855,489	10,549,345
Steam - Fossil Fuel	19,234,731	19,362,928	18,908,764
Hydraulic	2,066,878	1,645,271	1,452,926
Internal Combustion - Recip.	8,900	4,893	2,739
Internal Combustion - Turbine	766,719	501,092	601,804
Total	33,621,162	32,369,673	31,515,578
Megawatt Hours Purchased Plus Net Interchanges			
From Wisconsin Electric Utilities	1,419,667	475,342	660,410
From Out-of-State Electric Util.1/	4,082,791	4,098,258	3,225,082
From Electric Cooperatives	486,803	677,743	564,281
From Other Non-Utility Companies	269,442	102,507	133,185
Total	6,258,703	5,353,850	4,582,958
Total Megawatt Hours Generated and Purchased	39,879,865	37,723,523	36,098,536
Tons of Coal Used in Steam Plants	9,677,050	9,477,492	8,989,923
Gallons of Fuel Oil Used in Steam Plants	57,507,450	40,661,596	32,828,502
Therms of Natural Gas Used in Steam Plants	40,566,748	22,603,998	64,108,244
Gallons of Fuel Oil Used in Internal Combustion - Recip. Plants	725,970	412,650	226,212
Therms of Natural Gas Used in Internal Combustion - Recip. Plants	0	0	0
Gallons of Fuel Oil Used in Internal Combustion - Turbine Plts.	50,414,490	34,798,974	26,851,944
Therms of Natural Gas Used in Internal Combustion - Turbine Plts.	37,556,666	36,159,883	56,460,394

TABLE 8 (Concluded)

MEGAWATT HOURS GENERATED AND PURCHASED
WISCONSIN ELECTRIC UTILITIES
1978-1976

	1978	1977	1976
Municipal Electric Utilities			
Net Generation in Wisconsin			
Steam - Fossil Fuel	364,115	465,474	529,991
Hydraulic	122,623	91,506	94,495
Internal Combustion - Recip.	46,715	37,551	43,246
Internal Combustion - Turbine	5,384	5,524	17,272
Total	538,837	600,055	685,004
Megawatt Hours Purchased			
From Wisconsin Electric Utilities	2,875,409	2,586,697	2,352,183
From Electric Cooperatives	185,263	181,138	174,304
From Other Non-Utility Companies	1,431	399	0
Total	3,062,103	2,768,234	2,526,487
Total Megawatt Hours Generated and Purchased	3,600,940	3,368,289	3,211,491
Tons of Coal Used in Steam Plants	238,130	284,911	317,334
Gallons of Fuel Oil Used in Steam Plants	78,442	383,530	41,670
Therms of Natural Gas Used in Steam Plants	0	0	0
Gallons of Fuel Oil Used in Internal Combustion-Recip. Plants	2,053,658	1,400,937	1,029,935
Therms of Natural Gas Used in Internal Combustion-Recip. Plants	236,205	276,396	2,078,987
Gallons of Fuel Oil Used in Internal Combustion-Turbine Plants	31,337	277,552	41,718
Therms of Natural Gas Used in Internal Combustion-Turbine Plants	368,852	0	4,284,835

1/ Includes purchases delivered in Wisconsin or at state line.

TABLE 9

GENERATING PLANT AND TRANSMISSION LINE DATA
WISCONSIN ELECTRIC UTILITIES
1978-1976

Capacity of Generators in Kilowatts	1978	1977	1976
All Plants in Wisconsin			
Steam - Nuclear Fuel	1,540,682	1,540,682	1,540,682
Steam - Fossil Fuel	5,720,654	5,164,654	5,164,729
Hydraulic	349,290	349,138	347,764
Internal Combustion - Recip.	98,028	110,182	93,385
Internal Combustion - Turbine	1,279,700	1,066,700	1,067,200
Total	8,988,354	8,231,356	8,213,760
Private Utility Plants in Wisconsin			
Steam - Nuclear Fuel	1,540,682	1,540,682	1,540,682
Steam - Fossil Fuel	5,566,724	5,010,724	5,010,799
Hydraulic	330,425	330,325	328,951
Internal Combustion-Recip.	34,721	49,176	34,666
Internal Combustion-Turbine	1,259,700	1,046,700	1,047,200
Total	8,732,252	7,977,607	7,962,298
Municipal Utility Plants in Wisconsin			
Steam - Fossil Fuel	153,930	153,930	153,930
Hydraulic	18,865	18,813	18,813
Internal Combustion-Recip.	63,307	61,006	58,719
Internal Combustion-Turbine	20,000	20,000	20,000
Total	256,102	253,749	251,462
Plants Located Outside Wisconsin Operated by Wisconsin Utils. 1/			
Hydraulic	90,699	90,699	90,699
Internal Combustion-Recip.	5,042	0	0
Total	95,741	90,699	90,699
Total Plants Operated by Wisconsin Utilities			
Steam - Nuclear Fuel	1,540,682	1,540,682	1,540,682
Steam - Fossil Fuel	5,720,654	5,164,654	5,164,729
Hydraulic	439,989	439,837	438,463
Internal Combustion-Recip.	103,070	110,182	93,385
Internal Combustion-Turbine	1,279,700	1,066,700	1,067,200
Total	9,084,095	8,322,055	8,304,459
Miles of Transmission Pole or Tower (Including Out-of-State)			
Over 100,000 Volts	4,054	3,985	3,852
Less than 100,000 Volts	5,427	5,507	5,471

1/ Out-of-State plants are all owned by private electric utilities.

TABLE 10

CONDENSED SUMMARY OF 1978 OPERATIONS
INDIVIDUAL PRIVATE ELECTRIC UTILITIES 1/

Utilities	Operating Revenues 2/	Operation & Maintenance	Depreciation & Amortization	Taxes Other Than Income Taxes	Income Taxes	Net Operating Revenue	Total mWh Sold 2/	Average Number of Consumers 3/	mWh Generated 4/	mWh Purchased 4/
Class A, B, and C										
Consolidated Water Power Co.	$ 7,582,506	$ 6,245,636	$ 239,917	$ 111,722	$ 492,680	$ 492,551	397,595	952	141,952	260,623
Dahlberg Light and Power Co.	2,609,106	2,026,621	164,839	80,089	102,308	235,249	49,240	7,356	2,578	54,863
Cross Plains Electric Co.	569,814	457,854	32,375	15,402	8,509	55,674	11,729	1,000	0	12,493
Lake Superior District Power Co.	20,996,625	13,148,540	2,505,805	873,455	1,440,029	3,028,796	558,111	30,139	355,623	354,939
Madison Gas and Electric Co.	78,619,248	37,199,398	12,286,551	4,530,705	7,202,840	17,399,754	2,138,704	91,117	2,148,902	92,830
North Central Power Co.	794,625	448,581	52,428	39,703	83,367	170,546	16,420	2,702	10,838	8,199
Northern States Power Co.	116,864,520	81,998,874	9,214,523	4,529,387	6,296,206	14,825,530	2,908,721	129,715	1,045,146	2,276,902
Northwestern Wisconsin Elec. Co.	3,600,122	2,776,173	242,476	134,467	74,138	372,868	81,885	8,217	17,641	74,514
Pioneer Power and Light Co.	564,492	460,535	28,920	14,550	19,046	41,441	12,682	1,195	201	13,238
Superior Water, Light and Power Co.	16,526,216	14,274,364	536,193	286,079	520,898	908,682	458,197	12,343	36,974	459,062
Wisconsin Electric Power Co.	565,565,098	338,055,996	48,783,010	29,344,821	56,145,031	93,236,240	16,859,066	754,155	16,945,812	1,720,041
Wisconsin Power and Light Co.	229,388,205	126,641,101	29,580,619	12,632,040	17,991,080	42,543,365	6,627,293	280,875	6,576,827	601,637
Wisconsin Public Service Corp.	212,762,452	107,644,123	29,129,552	10,752,400	25,078,639	40,157,738	5,972,488	257,427	6,338,088	291,312
Subtotal	$1,256,443,029	$731,377,796	$132,797,208	$ 63,344,820	$115,454,771	$213,468,434	36,092,131	1,577,193	33,620,582	6,220,653
Class D										
Westfield Milling & Electric Co.	314,817	272,285	17,746	4,219	4,818	15,749	6,243	548	0	6,857
Grand Total	$1,256,757,846	$731,650,081	$132,814,954	$ 63,349,039	$115,459,589	$213,484,183	36,098,374	1,577,741	33,620,582	6,227,510

1/ Data included in this table include Wisconsin operations only, except where noted.
2/ Includes interdepartmental sales and sales for resale.
3/ Excluding off-peak water heating and area lighting customers.
4/ Total company operations are represented in data on generation and purchases. Companies operating outside Wisconsin are: Lake Superior District Power Company, Northwestern Wisconsin Electric Company, Wisconsin Electric Power Company, and Wisconsin Public Service Corporation. Where power is interchanged, the net figure is added to purchases.

TABLE 11

CONDENSED SUMMARY OF 1978 OPERATIONS
INDIVIDUAL MUNICIPAL ELECTRIC UTILITIES

Utilities	Operating Revenue	Operation and Maintenance	Depreciation and Amortization	Taxes Other Than Income Taxes	Net Operating Revenue	Total mWh Sold 1/	Average Number of Customers 2/	mWh Generated	mWh Purchased
Class A, B and C									
Algoma	$ 1,002,488	$ 906,386	$ 32,576	$ 22,889	$ 40,549	28,458	1,717	0	29,164
Arcadia	647,515	591,580	77,350	34,785	(56,200)	20,544	1,091	3,829	17,656
Bangor	688,983	562,067	45,200	21,045	60,671	20,645	1,088	0	22,783
Barron	823,511	720,370	81,106	44,568	(22,533)	23,306	1,268	4,018	21,071
Black Earth	408,019	344,998	19,712	17,491	25,818	8,760	770	0	9,387
Black River Falls	901,011	772,661	64,154	48,517	15,679	33,143	2,121	4,588	30,263
Bloomer	828,349	720,297	29,458	17,879	60,715	26,487	1,389	0	29,157
Boscobel	822,774	791,505	35,209	25,013	(28,953)	21,981	1,376	0	23,274
Brodhead	765,295	710,330	22,128	14,640	18,197	20,285	1,450	0	21,469
Cedarburg	2,612,544	2,222,553	154,327	82,273	153,391	83,032	4,060	14,964	73,263
Clintonville	1,171,782	1,101,066	45,996	30,827	(6,107)	38,353	2,371	0	41,604
Columbus	1,165,783	1,034,482	43,410	25,118	62,773	27,960	1,962	0	31,858
Cuba City	485,189	433,903	19,318	10,367	21,601	11,535	818	0	12,155
Cumberland	671,979	634,267	55,144	32,967	(50,399)	16,646	1,012	3,088	13,911
Deerfield	272,860	216,675	16,208	10,401	29,576	7,085	582	0	7,663
Eagle River	649,833	599,943	23,873	13,889	12,128	17,750	989	0	18,818
Elkhorn	1,410,335	1,260,913	58,429	33,154	57,839	43,851	2,164	0	47,616
Elroy	364,163	308,251	37,201	16,950	1,761	9,856	761	1,690	8,582
Evansville	1,256,128	1,193,977	43,311	26,177	(7,337)	32,459	2,029	0	34,598
Fennimore	582,924	531,809	41,519	20,071	(10,475)	16,624	1,072	1,757	16,423
Hartford	1,726,009	1,560,539	48,636	36,873	79,961	54,488	2,800	0	57,821
Hustisford	474,575	389,031	25,329	14,875	45,340	10,084	798	0	11,446
Jefferson	2,081,245	2,035,498	53,641	38,484	(46,378)	80,302	2,716	0	82,829
Juneau	715,679	669,651	27,267	18,746	15	18,617	771	0	20,006
Kaukauna	9,476,962	8,282,502	487,468	316,070	390,922	479,066	7,758	119,768	377,648
Kiel	882,070	781,767	46,045	24,912	29,346	26,558	1,549	0	28,858
Lake Mills	1,270,475	1,140,315	58,668	27,273	44,219	41,381	2,355	0	42,995
Lodi	478,020	427,277	18,641	9,507	22,595	11,465	917	0	12,083
Manitowoc	8,971,455	7,844,736	493,796	354,860	278,063	236,429	13,536	153,428	98,650
Marshfield	7,254,668	5,901,466	409,316	336,818	607,068	185,472	8,891	120,932	77,791
Medford	1,582,943	1,439,395	55,796	33,188	54,564	45,679	2,189	0	48,636
Menasha	3,968,499	3,310,405	349,763	252,565	55,766	97,881	6,210	62,746	36,645
Mount Horeb	1,055,813	878,362	55,834	28,674	92,943	26,008	1,540	0	27,544
Muscoda	451,599	397,865	27,548	17,813	8,373	9,900	868	16	11,017
New Glarus	407,795	391,503	13,045	7,697	(4,450)	11,102	795	0	11,470

TABLE 11 (CONCLUDED)

Utilities	Operating Revenue	Operation and Maintenance	Depreciation and Amortization	Taxes Other Than Income Taxes	Net Operating Revenue	Total mWh Sold 1/	Averaged Number of Customers 2/	mWh Generated	mWh Purchased
New Holstein	$ 1,574,060	$ 1,438,596	$ 59,559	$ 33,263	$ 42,642	44,497	1,804	0	46,644
New Lisbon	504,614	340,191	63,811	33,737	66,875	10,321	819	2,610	8,546
New London	2,324,608	2,210,554	49,914	42,499	21,641	83,285	2,668	0	87,863
New Richmond	974,215	847,799	40,679	24,154	61,583	32,349	1,808	0	34,120
Oconomowoc	3,440,028	2,952,676	150,456	114,810	222,086	109,138	5,022	0	114,490
Oconto Falls	487,410	445,386	23,464	14,465	4,095	15,137	1,137	0	16,594
Pardeeville	379,516	338,281	14,581	7,006	19,648	8,912	874	30	9,775
Plymouth	3,689,007	3,057,946	154,234	84,385	392,442	90,515	4,962	0	97,224
Prairie Du Sac	393,538	374,676	23,485	11,319	(15,942)	10,672	963	0	11,191
Reedsburg	2,275,603	2,154,995	55,269	36,914	28,425	67,206	2,774	0	69,647
Rice Lake	2,549,601	1,971,590	140,790	75,963	361,258	72,329	3,769	0	78,410
Richland Center	2,273,267	1,927,761	162,436	96,891	86,179	56,891	2,531	27,009	34,087
River Falls	2,244,801	1,681,955	192,539	92,720	277,587	55,197	3,383	11,425	46,165
Sauk City	730,731	718,856	29,673	12,853	(30,651)	18,971	1,166	0	20,170
Shawano	2,699,853	2,391,782	75,125	59,223	173,723	86,469	3,759	0	92,504
Sheboygan Falls	2,532,261	2,331,663	68,610	41,466	90,522	75,445	2,503	0	79,434
Slinger	510,266	497,338	12,726	7,465	(7,263)	18,224	697	0	18,778
Spooner	513,552	468,409	22,052	10,122	12,969	16,282	1,302	0	17,167
Stoughton	2,634,876	2,299,402	109,784	72,082	153,608	64,757	4,950	0	69,273
Sturgeon Bay	2,832,144	2,465,841	147,514	68,674	150,115	78,612	5,485	0	83,479
Sun Prairie	2,843,192	2,548,303	98,581	61,513	134,795	74,579	4,707	0	78,750
Two Rivers	2,318,789	1,968,469	105,104	75,663	169,553	60,824	5,460	0	65,201
Waterloo	784,994	717,940	21,011	15,526	30,517	25,671	1,184	0	27,922
Waunakee	1,057,234	965,414	41,575	19,801	30,444	26,569	1,428	0	28,620
Waupun	1,819,015	1,654,364	71,297	41,627	51,727	46,648	3,073	0	49,140
Westby	377,769	343,144	17,889	9,657	7,079	12,379	804	0	13,454
Whitehall	546,317	502,491	20,805	11,308	11,713	19,548	789	0	19,824
Wisconsin Dells	850,216	766,940	46,246	27,876	9,154	22,204	1,460	0	24,108
Wisconsin Rapids	4,519,549	3,992,330	202,353	174,146	150,720	142,775	9,783	0	149,351
Total Class A, B & C	$109,010,210	$95,483,437	$5,337,984	$3,444,504	$4,744,285	3,289,598	164,847	531,898	2,948,085
Class D									
21 Utilities	4,255,337	3,774,621	224,859	117,436	138,421	112,415	10,390	6,939	114,018
Grand Total	$113,265,547	$99,258,058	$5,562,843	$3,561,940	$4,882,706	3,402,013	175,237	538,837	3,062,103

1/ Includes Interdepartmental Sales and Sales for Resale.
2/ Excluding Off-Peak Water Heating and Area Lighting customers.

GAS UTILITY SUMMARY

Comparative statistics of the gas utility industry in Wisconsin for the three year period 1976-1978 are presented in this section. The following tables and charts deal with gas utility operations:

Table 12 - Comparative Statement of Revenues and Expenses, 1978-1976.
Table 13 - Sales to Ultimate Consumers by Classes, 1978-1976.
Table 14 - Operating and Plant Statistics, 1978-1976.
Table 15 - Condensed Summary of 1978 Operations - Individual Utilities.

Chart 13 - Comparison of Revenues and expenses, Wisconsin Gas Utilities, 1969-1978.
Chart 14 - Residential Revenue and Consumption Ratios, Wisconsin Gas Utilities, 1969-1978.
Chart 15 - Revenue of Individual Gas Utilities, Percent of Total Sales to Ultimate Consumers, 1978.

Gas Utility Revenues and Expenses

Table 12 and Chart 13 show that gas utility revenues in 1978 were up about 15.5% from the previous year. Expense rose 16.5% during the same period. Therms sold to ultimate consumers increased 6.2% and the number of ultimate (retail) consumers increased 1.6%.

Sales to Ultimate Consumers

Table 13 summarizes sales to ultimate consumers. Percentage changes in 1978 by principle classes of service are given below:

	% Change From 1977 to 1978		
	Revenues	Therms Sold	Number of Customers
Residential - General	4.34%	(1.43)%	(2.85)%
Residential - Space Heating	12.93	4.70	2.56
Commercial and Industrial - Firm	19.11	7.92	(1.49)
Commercial and Industrial - Interr.	19.18	7.95	(2.51)
Commercial and Industrial - Sp. Htg.	14.10	5.13	1.53
Total Sales to Ultimate Consumers	15.53%	6.22%	1.60%

The number of residential space heating customers rose 2.56% during 1978. Since many of these customers formerly took service as residential general customers, a decline occurred in the number served in that classification. Commercial and Industrial space heating customers rose while there was a decline in firm and interruptible customers. Overall the number of commercial and industrial customers was up about 1%.

The decline in therms sold to residential-general consumers was due to the reduction in customers.

CHART 13
WISCONSIN GAS UTILITIES REVENUES AND EXPENSES

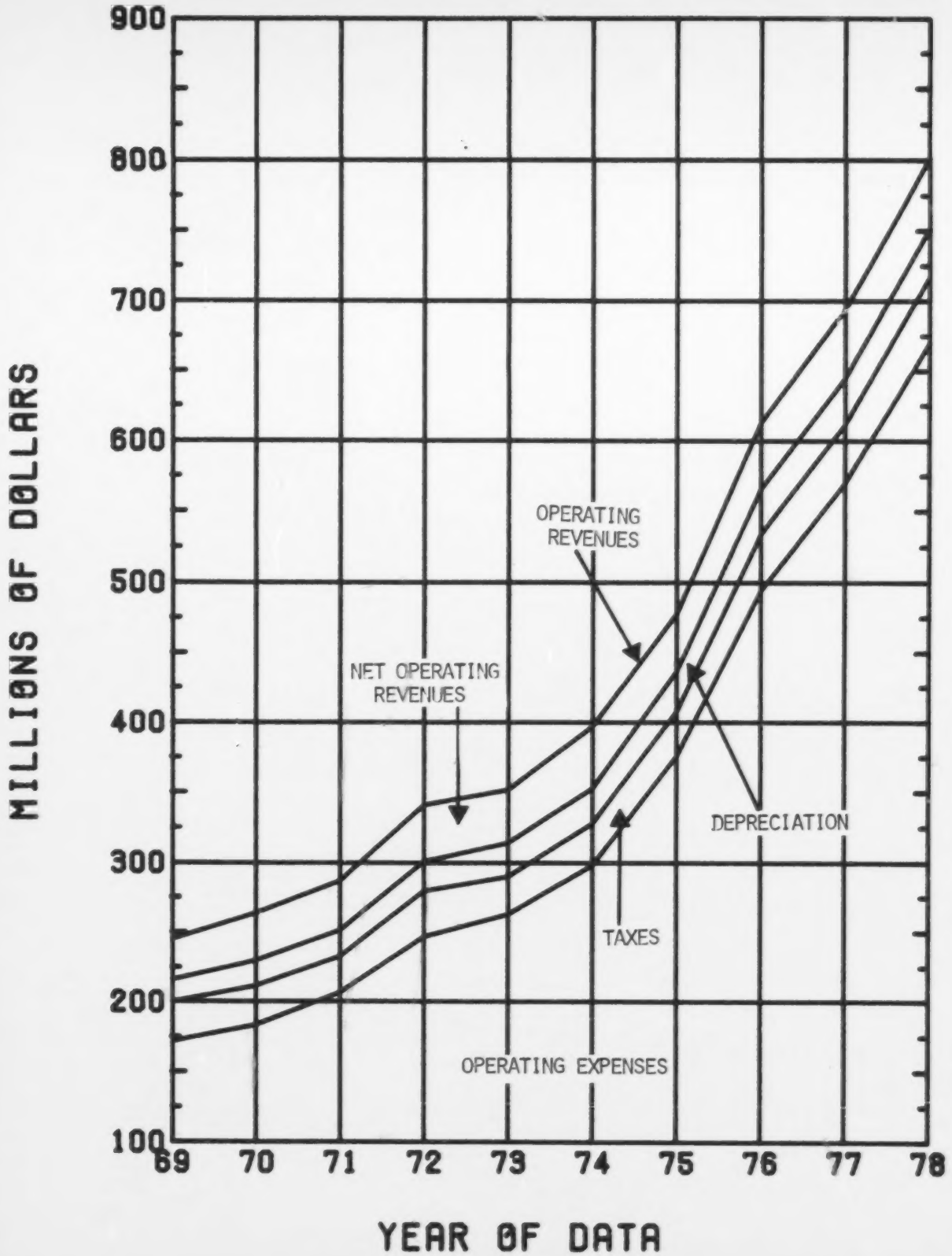
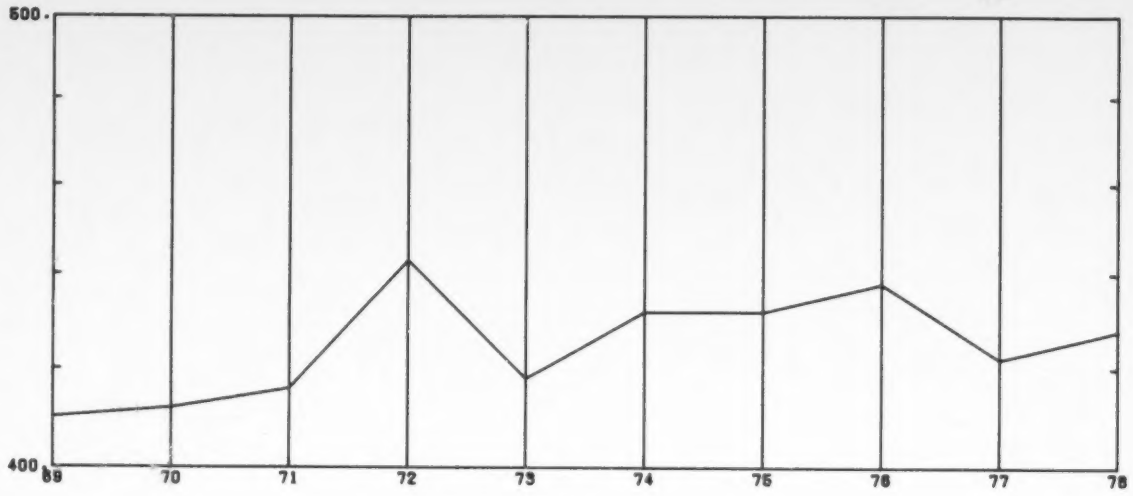
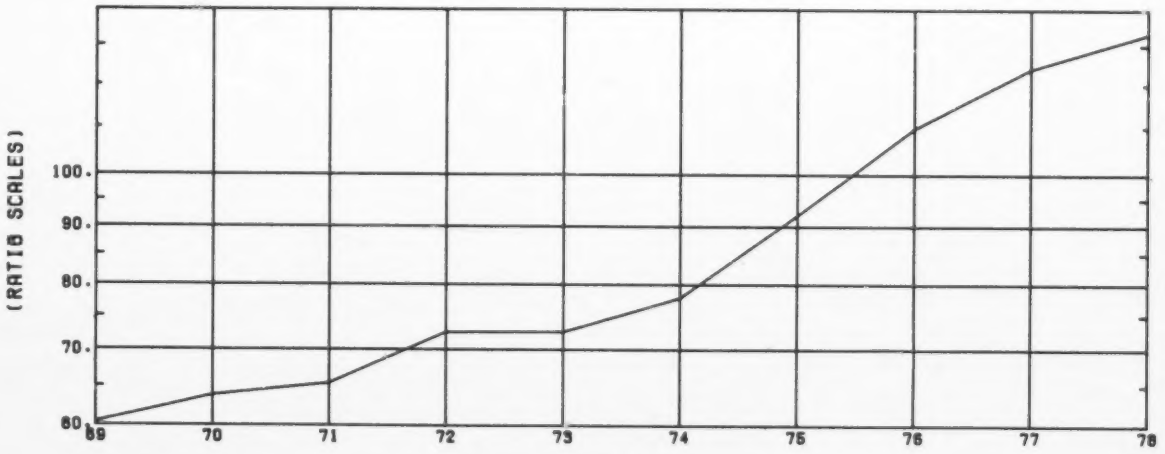


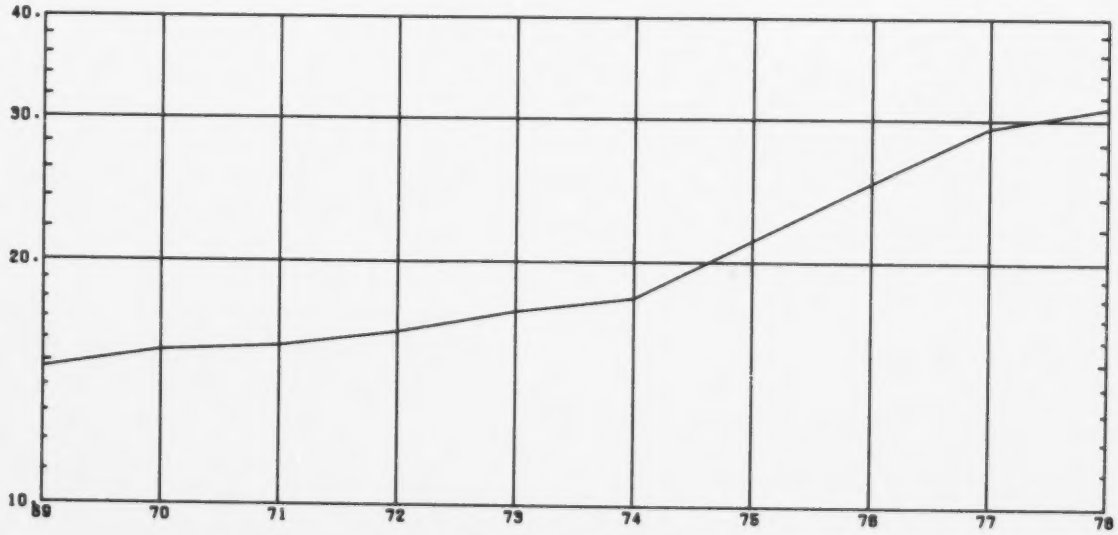
CHART 14
GAS UTILITY RESIDENTIAL REVENUE AND CONSUMPTION RATIOS



THERMS PER CUSTOMER



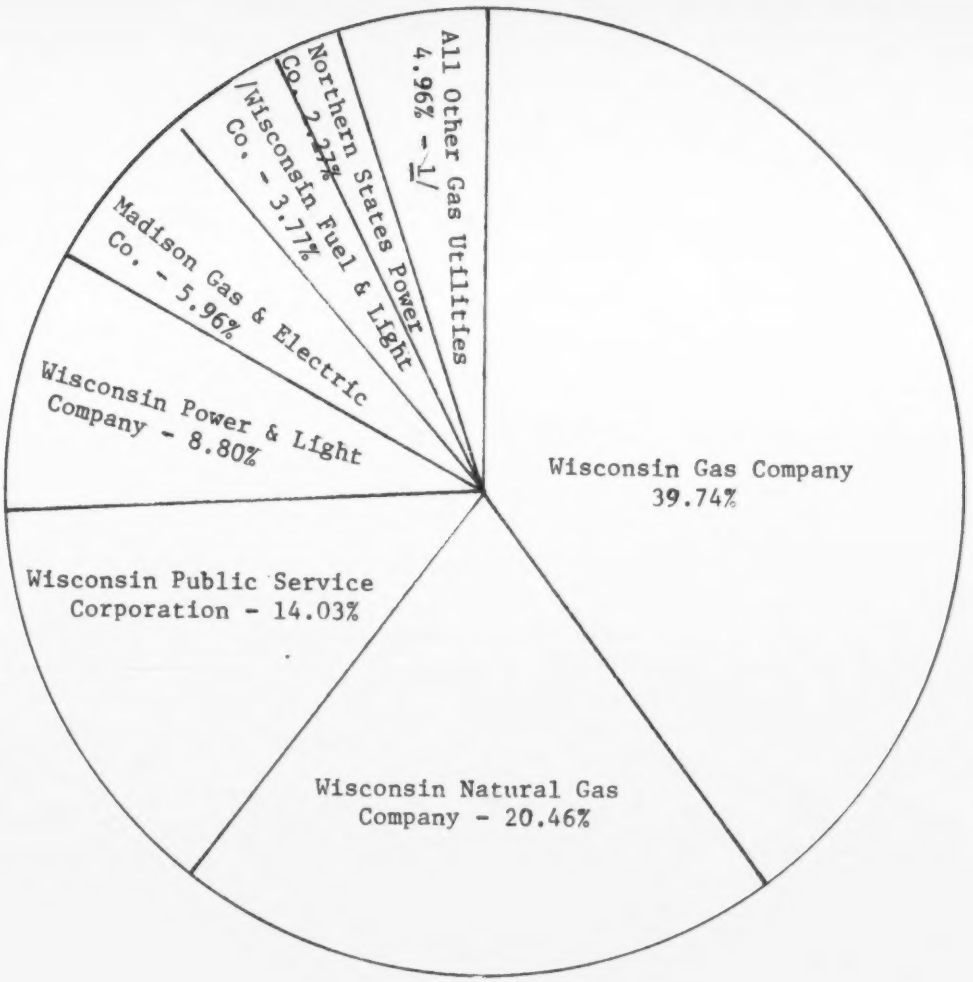
REVENUE PER CUSTOMER



REVENUE PER THERM

CHART 15

Revenues of Wisconsin Gas Utilities
In Percent of Total Sales to Ultimate Consumers
1978


All Other Gas Utilities
4.96% - 1/
Northern States Power Co. - 2.27%
/Wisconsin Fuel & Light Co. - 3.77%
Madison Gas & Electric Co. - 5.96%
Wisconsin Power & Light Company - 8.80%
Wisconsin Gas Company
39.74%
Wisconsin Public Service Corporation - 14.03%
Wisconsin Natural Gas Company - 20.46%

1/	Wisconsin Southern Gas Co.	- 2.24%
	Lake Superior District Power Co.	- 0.81
	Superior Water, Light & Power Co.	- 0.79
	Midwest Natural Gas Co.	- 0.26
	North Central Public Service	- 0.22
	Class C Private	- 0.57
	Class D Private	- 2/
	Municipal	- 0.07
	Total	4.96%

2/ There were no Class D for 1978.

Revenue and Consumption Ratios

The following table shows average revenue per therm, therms sold per customer and revenue per customer for each of the principle classes of service.

	1978	1977	1976
Revenue Per Therm			
Residential - General	31.1¢	29.4¢	25.1¢
Residential - Space Heating	26.3	24.4	20.5
Commercial and Industrial - Firm	21.3	19.3	15.0
Commercial and Industrial - Interruptible	19.8	17.9	13.5
Commercial and Industrial - Space Heating	23.6	21.7	17.7
Therms Per Customer			
Residential - General	428	422	438
Residential - Space Heating	1,577	1,545	1,657
Commercial and Industrial - Firm	44,346	40,479	31,544
Commercial and Industrial - Interrupt.	582,712	526,271	353,603
Commercial and Industrial - Space Heating	9,213	8,897	9,488
Revenue Per Customer			
Residential - General	$ 133	$ 124	$ 110
Residential - Space Heating	415	377	339
Commercial and Industrial - Firm	9,460	7,824	4,733
Commercial and Industrial - Interrupt.	115,203	94,242	47,775
Commercial and Industrial - Space Heating	2,173	1,933	1,677

Revenue per therm increased for all customer classifications in 1978. This is the tenth year in a row that the price per therm has increased, which is a reversal of a previous long-term trend toward lower rates. Therms sold per customer increased for all classifications. Revenue per customer increased for all classes. Chart 14 presents a comparison of average residential bills and consumption over a 10-year period. Although consumption has remained relatively constant in recent years the cost per therm and the total bills have increased sharply.

Gas Utility Plant Statistics

Table 14 supplies a summary of operating and plant statistics of the gas utility industry in Wisconsin. Over 99.9% of the 3,430 million therms delivered to mains in 1978 was natural gas. Almost 18,500 miles of main were in service at the close of 1978, exclusive of that owned by the pipeline companies. This represents a 1.0% increase over a year earlier.

Data on Individual Utilities

Individual company statistics for 1978 are presented in Table 15. Chart 15 shows a breakdown by company of total sales to ultimate consumers. The Wisconsin Gas Company accounted for 39.7% of total sales revenue from ultimate consumers and the five largest utilities made up 89.0% of the total.

TABLE 12

COMPARATIVE STATEMENT OF REVENUES AND EXPENSES
WISCONSIN GAS UTILITIES 1/
1978-1976

	1978	1977	1976
Operating Revenues			
Sales to Ultimate Consumers	$790,733,893	$684,430,104	$607,872,931
Sales to Other Gas Utilities	2,376,068	2,486,960	2,250,299
Total Sales of Gas	$793,109,961	$686,917,064	$610,123,230
Other Operating Revenues	8,510,573	7,228,000	2,614,264
Total Operating Revenues	$801,620,534	$694,145,064	$612,737,494
Operating Expenses			
Production			
Liquified Petroleum Gas	$ 313,835	$ 660,422	$ 281,884
Purchased Gas-Natural	579,283,963	489,784,061	421,596,740
Storage	535,778	601,773	489,324
Total Production Expense	$580,133,576	$491,046,256	$422,367,948
Transmission and Distribution	34,538,819	32,523,603	30,229,287
Customer Accounts	17,415,328	16,168,586	14,706,162
Customer Services	6,078,232	2,790,249	1,975,230
Sales Promotion 3/	556,569	504,671	0
Administrative and General	31,174,007	26,540,535	24,687,764
Total Operation and Maintenance	$669,896,531	$569,573,900	$493,966,391
Depreciation 2/	34,654,460	33,407,237	31,922,848
Taxes Other than Income Taxes	17,029,659	16,573,159	15,460,156
Income Taxes	29,853,239	25,663,147	24,579,400
Total Operating Expenses	$751,433,889	$645,217,443	$565,928,795
Net Operating Revenues	$ 50,186,645	$ 48,927,621	$ 46,808,699

1/ Excluding out-of-state operations except where noted.
2/ Including amortization of plant acquisition adjustments, conversion costs, and other utility plant not subject to charges for depreciation.
3/ For the year 1976 Customer Services and Sales Promotion Expenses were combined.

TABLE 13

SALES TO ULTIMATE CUSTOMERS BY CLASSES
WISCONSIN GAS UTILITIES 1/
1978-1976

	1978	1977	1976
Revenue from Gas Sold to Ultimate Consumers			
Residential - General	$ 19,153,052	$ 18,357,254	$ 16,920,562
Residential - Space Heating	314,912,019	278,847,760	248,240,809
Commercial and Industrial - Firm	120,335,823	101,027,862	54,472,761
Commercial and Industrial - Interr.	179,140,740	150,316,419	166,494,984
Commercial and Industrial - Space Htg.	149,864,605	131,346,983	114,250,333
Interdepartmental	7,327,654	4,533,826	7,493,482
Total	$ 790,733,893	$ 684,430,104	$ 607,872,931
Therms of Gas Sold to Ultimate Consumers			
Residential - General 2/	61,552,936	62,445,770	67,390,333
Residential - Space Heating	1,197,954,760	1,144,201,791	1,212,593,924
Commercial and Industrial - Firm	564,080,413	522,667,217	363,004,254
Commercial and Industrial - Interr.	906,116,778	839,402,971	1,232,307,166
Commercial and Industrial - Space Htg.	635,495,860	604,472,630	646,477,374
Interdepartmental	37,123,771	29,947,350	68,751,975
Total	3,402,324,518	3,203,137,729	3,590,525,026
Average Number of Customers			
Residential - General 2/	143,747	147,970	153,969
Residential - Space Heating	759,599	740,629	731,705
Commercial and Industrial - Firm	12,720	12,912	11,508
Commercial and Industrial - Interr.	1,555	1,595	3,485
Commercial and Industrial - Space Htg.	68,977	67,939	68,135
Interdepartmental	9	9	10
Total	986,607	971,054	968,812

1/ Excluding out-of-state operations.
2/ The decline in residential consumption, and customers is due to the transfer of residential customers to the space heating classification when gas furnaces are installed.

TABLE 14

OPERATING AND PLANT STATISTICS
WISCONSIN GAS UTILITIES 1/
1978-1976

	1978	1977	1976
Disposition of Gas Delivered to Mains (Therms)			
Gas Sold in Wisconsin			
To Ultimate Consumers	3,402,324,518	3,203,137,729	3,590,525,026
To Other Gas Utilities	13,354,747	12,116,710	16,939,498
Total	3,415,679,265	3,215,254,439	3,607,464,524
Gas Used by Company	7,406,361	4,604,957	8,095,939
Total Sold and Used	3,423,085,626	3,219,859,396	3,615,560,463
Gas Unaccounted for	6,836,078	(11,670,231)	36,905,718
Gas Delivered to Mains	3,429,921,704	3,208,189,165	3,652,466,181
Percentage of Gas Unaccounted for	0.20%	(0.36)%	1.01%
Gas Produced (Therms)			
Liquefied Petroleum Gas	345,845	1,640,944	751,752
Natural Gas Purchased (Therms)			
From Michigan-Wisconsin Pipe Line Company	3,051,340,811	2,833,539,255	3,255,823,363
From Natural Gas Pipe Line Co.	81,935,868	73,117,087	77,863,108
From Midwest Gas Transmission Company	42,180,283	47,897,426	55,788,754
From Northern Natural Gas Company	257,388,173	252,482,134	262,687,165
Total Natural Gas Purchased	3,432,845,135	3,207,035,902	3,652,162,390
Total Gas Produced and Purchased	3,433,190,980	3,208,676,846	3,652,914,142
Net Inventory Change	(3,269,276)	(487,681)	(447,961)
Gas Delivered to Mains	3,429,921,704	3,208,189,165	3,652,466,181
Miles of Distribution and Transmission Mains 2/	18,496	18,307	18,103

1/ Excluding out-of-state operations.
2/ Not including transmission mains owned by pipeline companies.

TABLE 15

CONDENSED SUMMARY OF 1978 OPERATIONS
INDIVIDUAL GAS UTILITIES 1/

Utilities	Operating Revenue 2/	Operation and Maintenance	Depreciation and Amortization	Taxes Other Than Income Taxes	Income Taxes	Net Operating Revenues	Therms Sold 2/	Therms Produced	Therms Purchased 3/	Therms Produced and Purchased	Average Number of Customers 2/
Class A and B											
Lake Superior Dist. Pwr. Co.	$ 6,600,576	$ 6,286,204	$ 136,725	$ 92,843	$ (28,500)	$ 113,304	38,035,224	0	38,103,999	38,103,999	5,588
Madison Gas & Electric Co.	47,442,938	37,080,419	3,041,104	1,373,268	1,946,038	4,002,109	184,139,235	0	186,223,506	186,223,506	59,814
Midwest Natural Gas Co.	2,034,895	1,732,292	84,412	47,286	61,643	109,262	10,316,411	5,252	10,130,713	10,135,965	3,016
North Central Public Service	1,783,613	1,655,660	50,352	29,811	10,000	37,790	8,318,433	142,500	8,368,855	8,511,355	2,688
Northern States Power Co.	18,544,501	15,429,878	1,076,906	440,193	749,619	847,905	68,295,798	10,530	69,250,873	69,261,403	30,285
Superior Water, Light. & Pwr.Co.	6,300,281	5,295,295	309,122	139,822	249,083	306,959	29,133,155	43,227	29,871,680	29,914,907	8,859
Wisconsin Fuel and Light	29,990,413	26,892,637	628,700	432,050	1,028,146	1,008,880	140,058,462	0	140,724,168	140,724,168	34,174
Wisconsin Gas Co.	316,343,548	261,359,315	13,418,344	6,556,519	13,774,996	21,234,374	1,321,634,817	0	1,317,246,681	1,317,246,681	382,253
Wisconsin Natural Gas Co.	164,401,121	135,568,882	7,457,236	3,707,093	6,084,890	11,583,020	697,314,767	0	697,807,720	697,807,720	194,085
Wisconsin Power & Light Co.	73,739,981	61,888,975	3,074,717	1,527,043	2,777,590	4,471,656	300,685,000	4,820	304,310,129	304,314,949	90,426
Wisconsin Public Service Corp.	111,547,955	96,769,501	4,501,506	2,121,200	2,972,287	5,183,461	510,494,321	0	516,898,044	516,898,044	135,396
Wisconsin Southern Gas Co.	17,890,434	15,405,388	725,585	466,870	132,779	1,069,812	83,423,836	65,927	90,236,765	90,302,692	33,781
Subtotal	$796,620,256	$665,454,446	$ 34,504,709	$ 16,933,998	$29,758,571	$49,968,532	3,391,849,459	272,256	3,409,173,133	3,409,445,389	980,365
Class C and D											
City Gas Co. of Antigo	$ 2,354,822	$ 2,161,568	$ 47,686	$ 31,978	$ 37,819	$ 75,771	10,977,334	0	10,816,835	10,816,835	2,975
Elroy Gas, Inc.	392,367	337,977	12,418	9,406	3,549	29,017	1,721,972	3,888	1,718,610	1,722,498	376
Muny Natural Gas Co. 4/	528,843	477,149	14,004	11,406	0	26,284	2,984,700	0	2,940,041	2,940,041	586
Natural Gas, Inc.	415,766	404,925	13,021	11,735	6,600	(20,515)	2,127,725	0	2,135,160	2,135,160	415
St. Croix Valley Natural Gas	1,308,480	1,060,466	62,622	31,136	46,700	107,556	6,018,075	69,701	5,864,691	5,934,392	1,892
Subtotal	$ 5,000,278	$ 4,442,085	$ 149,751	$ 95,661	$ 94,668	$ 218,113	23,829,806	73,589	23,475,337	23,548,926	6,244
Total All Utilities	$801,620,534	$669,896,531	$ 34,654,460	$ 17,029,659	$29,853,239	$50,186,645	3,415,679,265	345,845	3,432,648,470	3,432,994,315	986,609

( ) Denotes negative figure.
1/ Data includes Wisconsin operations only.
2/ Includes interdepartmental sales and sales for resale.
3/ Out-of-state sales by Lake Superior District Power Company and Wisconsin Public Service Corporation were subtracted from the therms purchased figure to give an estimated figure for Wisconsin only.
4/ Municipally owned.

TELEPHONE UTILITY SUMMARY

Comparative statistics of telephone utilities in Wisconsin during the period 1976-1978 are presented in this section. In addition, selected data over a 10-year period are presented in Chart 16. The coverage is summarized below:

Table 16 - Comparative Statement of Revenues and Expenses, Wisconsin Telephone Utilities, 1978-1976.
Table 17 - Stations Served and Miles of Pole Lines, Wisconsin Telephone Utilities, 1978-1976.
Table 18 - Condensed Summary of 1978 Operations, Individual Telephone Utilities

Chart 16 - Comparison of Revenues and Expenses, Wisconsin Telephone Utilities, 1969-1978

Telephone Utility Revenues and Expenses

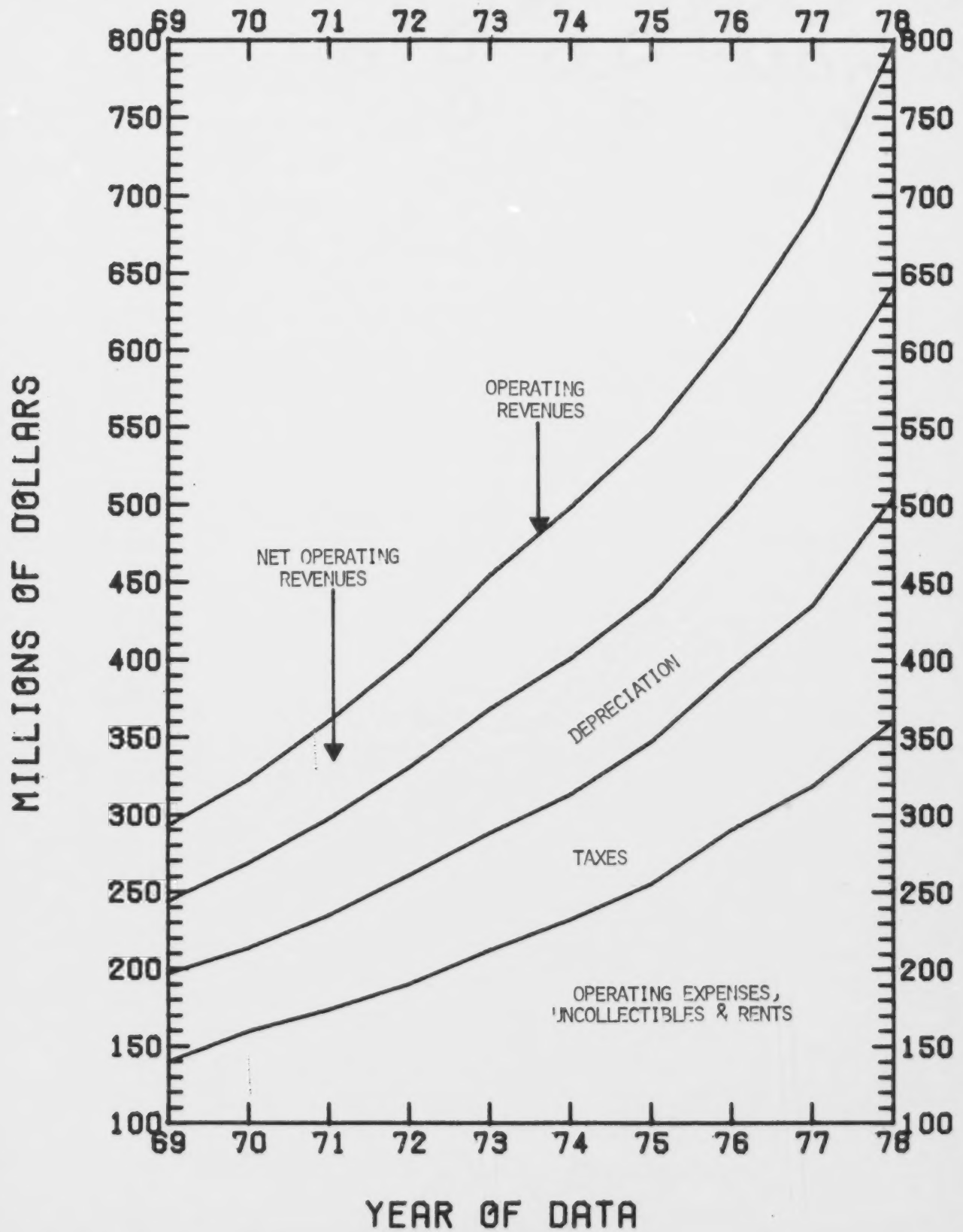
Table 16 shows that telephone revenues in Wisconsin rose over $107.2 million in 1978, a rise of 15.5%. Total operating expenses were up about $81.9 million and net operating revenue rose about $25.3 million or 19.7%.

Toll service revenues increased more rapidly than local service revenues during the year, rising 17.5% as compared to 13.7%. All major categories of expense rose during the year. Income taxes showed the greatest increase with 31.4% followed by general services and licenses with 18.7%. Traffic expense had the smallest increase, 3.1%.

Operating revenues, operating expenses, and net operating revenues are compared below on a per station basis over a 10-year period. These ratios are based on the number of stations at the close of each year.

Year	Total Operating Revenue Per Station	Total Operating Expense Per Station	Net Operating Revenue Per Station
1978	$ 234.21	$ 188.94	$ 45.27
1977	210.18	170.96	39.22
1976	195.33	158.71	36.63
1975	183.44	147.81	35.63
1974	174.65	140.68	33.96
1973	166.43	135.04	31.39
1972	155.60	127.95	27.65
1971	146.19	120.80	25.40
1970	136.36	113.56	22.79
1969	129.62	107.87	21.75

CHART 16
WISCONSIN TELEPHONE UTILITIES REVENUES AND EXPENSES



Station Data

Station data is presented in Table 17. About 3,406,000 stations were in service at the close of 1978, 3.67% more than in the preceding year. Extension stations accounted for 33.8% of the total and another 11.6% are connected to private branch or centrex exchange systems. Main stations totaled about 1,860,500 in 1978.

Station growth over the last ten years is analyzed below:

	Index Numbers of Telephones in Service 1969=100			
Year	Main	PBX	Extension	Total
1978	131	141	202	150
1977	127	137	193	145
1976	124	131	180	139
1975	120	127	163	132
1974	117	124	150	126
1973	113	119	139	121
1972	110	113	128	115
1971	107	107	117	109
1970	104	103	107	105
1969	100	100	100	100

Individual Companies

Table 18 presents individual company data for each of the 115 companies operating in the State. The Wisconsin Telephone Company alone accounted for 71.3% of the revenues and served 69.7% of the stations. General Telephone Company accounted for another 15.6% of the total revenues and served 14.2% of the stations.

TABLE 16

COMPARATIVE STATEMENT OF REVENUES AND EXPENSES
WISCONSIN TELEPHONE UTILITIES
1978-1976

	1978	1977	1976
Operating Revenues			
Exchange Service Revenue	$390,621,740	$343,590,565	$311,421,974
Toll Service Revenue	364,451,446	310,270,014	270,240,501
Miscellaneous Operating Revenue	42,796,879	36,769,881	31,900,750
Total Operating Revenues	$797,870,065	$690,630,460	$613,563,225
Operating Expenses			
Maintenance Expense	$135,834,040	$119,852,214	$108,091,976
Traffic Expense	39,139,053	37,977,046	37,156,975
Commercial Expense 1/	70,341,531	59,633,930	52,401,954
General and Miscellaneous Expense	106,098,072	93,042,565	84,203,907
General Services and Licenses	10,072,566	8,485,557	9,058,647
Total Operation and Maintenance	$361,485,262	$318,991,312	$290,913,459
Depreciation and Amortization	136,697,870	126,034,074	104,143,158
Taxes Other than Income Taxes	67,197,524	57,173,320	50,569,296
Income Taxes	78,275,976	59,565,493	52,892,353
Total Operating Expenses	$643,656,632	$561,764,199	$498,518,266
Net Operating Revenue	$154,213,433	$128,866,261	$115,044,959

1/ Includes uncollectible bills.

TABLE 17

STATIONS SERVED BY WISCONSIN
TELEPHONE COMPANIES
1978-1976

	December 31, 1978	December 31, 1977	December 31, 1976
Main Stations 1/	1,860,527	1,801,281	1,749,477
Centrex and PBX Stations	395,086	382,067	367,135
Extension Stations	1,151,041	1,102,596	1,024,533
Total Stations	3,406,654	3,285,944	3,141,145

1/ Includes pay, private line and mobile stations.

TABLE 18

A SUMMARY OF 1978 OPERATIONS

FOR INDIVIDUAL TELEPHONE UTILITIES

UTILITY	OPERATING REVENUE	OPERATION AND MAINTENANCE	DEPN. AND AMORT.	TAXES OTHER THAN INCOME TAXES	INCOME TAXES	TOTAL OPERATING EXPENSE	NET OPERATING REVENUE	TOTAL STATIONS CLOSE OF YEAR
ALMOND TELEPHONE COMPANY	130,974	74,087	25,222	9,531	5,407	114,256	22,718	881
AMBERG TELEPHONE AND TELEGRAPH CO	1,882,694	622,884	421,392	148,698	127,280	1,340,260	542,434	7,200
AMERY TELEPHONE COMPANY	916,204	279,242	320,275	82,475	-2,102	760,888	155,416	5,722
AMHERST TELEPHONE COMPANY	567,692	203,492	185,381	33,692	20,141	442,708	124,985	2,659
BADGER TELEPHONE COMPANY INC	323,927	136,888	84,998	16,240	0	238,226	85,701	1,570
BADGER STATE TELEPHONE COMPANY, INC	1,210,060	427,192	257,826	82,167	151,722	928,917	281,143	5,479
BALDWIN TELEPHONE EXCHANGE	505,407	200,520	151,912	21,901	20,005	404,938	100,520	2,428
BAYLAND TELEPHONE INC	241,984	106,220	65,184	16,078	7,154	194,736	47,248	1,409
BELMONT TELEPHONE COMPANY	150,267	49,740	46,011	8,432	9,233	111,417	44,850	1,002
BERGEN TELEPHONE COMPANY	25,290	13,215	9,020	1,091	2,820	27,871	7,418	202
BLACK EARTH TELEPHONE COMPANY	245,788	99,296	27,552	11,403	42,910	181,108	54,620	1,475
BLOOMER TELEPHONE COMPANY	374,151	116,222	82,297	24,100	56,747	280,466	93,686	2,280
BONDUEL TELEPHONE COMPANY	340,099	100,794	70,464	19,035	30,100	292,998	52,701	2,124
BRUCE TELEPHONE COMPANY, INC	255,010	102,747	48,158	15,292	11,473	178,670	76,929	1,449
BURLINGTON BRIGHTON & WHEATLAND TEL	740,200	294,902	121,892	48,128	109,715	574,709	165,557	3,051
CASCO TELEPHONE COMPANY	147,000	70,880	52,101	8,278	241	131,499	16,107	1,270
CENTRAL STATE TELEPHONE COMPANY	1,922,490	704,097	404,754	127,934	139,284	1,424,169	497,228	8,009
CHEQUAMEGON TELEPHONE COOP INC	1,049,002	550,171	380,400	141,105	0	1,077,802	571,801	6,117
CHIBARDUN TELEPHONE COOPERATIVE INC	995,427	340,272	418,700	82,499	0	827,578	167,859	5,880
CHIPPEWA COUNTY TELEPHONE INC	491,852	212,770	135,488	22,910	20,159	401,329	90,513	2,157
CITIZENS TELEPHONE COOPERATIVE INC	288,087	92,060	104,208	13,159	0	209,413	79,274	1,909
CLEAR LAKE TELEPHONE COMPANY, INC	244,855	112,102	61,573	15,038	8,967	198,341	46,514	1,525
COCHRANE COOPERATIVE TELEPHONE CO	177,422	69,202	46,001	10,419	0	125,722	51,700	1,254
COLOMA TELEPHONE COMPANY	125,419	45,107	27,577	8,030	9,062	89,827	35,582	645
COON VALLEY FARMERS TELEPHONE CO	237,610	104,421	62,525	12,022	8,742	189,721	47,895	2,221
CRANDON TELEPHONE COMPANY	448,210	192,617	119,948	29,730	15,282	358,576	89,740	2,280
CREAM VALLEY TELEPHONE COMPANY	507,004	211,552	157,809	29,025	29,841	428,288	78,715	2,000
CUBA CITY TELEPHONE EXCHANGE COMPANY	398,219	124,509	70,102	20,570	50,745	271,992	126,226	2,164
CUMBERLAND TELEPHONE COMPANY	777,559	208,900	152,555	50,054	127,272	598,788	178,771	3,877

TABLE 18 (CONTINUED)

UTILITY	OPERATING REVENUE	OPERATION AND MAINTENANCE	DEPN. AND AMORT.	TAXES OTHER THAN INCOME TAXES	INCOME TAXES	TOTAL OPERATING EXPENSE	NET OPERATING REVENUE	TOTAL STATIONS CLOSE OF YEAR
DICKEYVILLE TELEPHONE CORPORATION	168,576	67,921	47,572	6,991	7,159	129,642	38,932	1,225
DODGE COUNTY TELEPHONE COMPANY	226,636	122,808	53,991	11,308	12,485	200,593	26,042	1,342
FAIRWATER BRANDON ALTO TELEPHONE CO	277,144	130,230	72,757	18,491	-1,242	220,235	56,909	1,562
FARMERS INDEPENDENT TELEPHONE CO	384,284	147,905	93,214	24,973	37,148	303,240	81,045	2,618
FARMERS AND MERCHANTS TELEPHONE CO	554,682	246,160	128,665	28,933	35,887	449,644	105,038	3,744
FARMERS TELEPHONE COMPANY	1,285,677	394,607	328,215	105,220	127,509	955,550	330,126	7,354
FENNIMORE TELEPHONE COMPANY	327,044	190,068	68,130	18,914	15,199	292,310	34,733	2,554
FOOTVILLE TELEPHONE COMPANY	195,457	81,096	50,850	11,851	2,246	147,043	48,415	1,151
FORESTVILLE TELEPHONE COMPANY, INC	298,189	132,220	75,648	14,241	17,668	239,876	58,313	1,980
FREDERIC TELEPHONE COMPANY	1,031,489	431,542	298,045	95,955	62,149	887,691	143,798	2,111
GENERAL TELEPHONE COMPANY OF WISC	125,110,965	47,921,426	29,789,937	10,423,672	10,080,212	98,815,248	26,295,617	482,866
GLEASON TELEPHONE COMPANY INC	89,704	61,882	15,747	2,579	0	81,209	8,496	587
GREENWOOD TELEPHONE COMPANY	317,969	146,273	64,934	17,031	27,056	265,293	52,676	1,945
HAGER CITY TELEPHONE COMPANY	420,919	182,276	136,529	25,868	2,628	348,311	72,608	2,149
HAMMOND TELEPHONE COMPANY	144,166	84,513	25,096	6,427	7,465	123,502	20,664	970
HEADWATERS TELEPHONE COMPANY	822,342	235,740	162,425	52,492	139,560	591,227	231,115	3,442
HILLSBORO TELEPHONE COMPANY INC	344,216	130,769	103,198	21,933	14,301	270,200	74,016	1,760
LA CROSSE TELEPHONE CORPORATION	10,800,945	5,171,100	2,364,802	946,727	337,139	8,819,768	1,981,178	56,579
LAKEFIELD TELEPHONE COMPANY	243,502	109,906	61,800	14,014	5,976	191,697	51,806	1,660
LAKELAND TELEPHONE COMPANY	605,315	215,307	130,809	38,326	112,725	497,177	108,138	2,609
LAKESHORE TELEPHONE COMPANY	276,962	120,808	74,583	16,627	12,835	224,864	52,098	1,515
LARSEN-READFIELD TELEPHONE COMPANY	293,543	136,093	72,354	15,502	22,516	246,465	47,078	2,427
LA VALLE TELEPHONE COOPERATIVE, INC	250,818	117,246	87,918	14,155	0	219,320	31,498	1,672
LEMONWEIR VALLEY TELEPHONE COMPANY	431,898	163,620	78,970	25,734	60,881	329,205	102,693	2,686
LUCK TELEPHONE COMPANY	317,823	100,191	91,169	19,260	33,324	244,045	73,788	2,096
MADELINE ISLAND TELEPHONE COMPANY	42,616	24,301	6,014	2,461	1,096	33,872	8,744	315
MANAWA TELEPHONE COMPANY, INC	462,155	189,271	115,600	30,451	13,385	348,807	113,347	2,316
MAPLE TELEPHONE COOPERATIVE, INC	57,578	27,027	12,353	2,581	0	42,960	14,617	307
MARQUETTE ADAMS TELEPHONE COOP INC	527,387	208,859	158,603	30,464	110	398,036	129,351	2,521
MID-PLAINS TELEPHONE INCORPORATED	3,237,014	1,061,659	939,047	271,576	202,628	2,475,920	761,094	18,601
MIDWAY TELEPHONE COMPANY	1,869,446	615,837	403,389	145,481	136,267	1,300,973	568,473	7,552
MILLTOWN MUTUAL TELEPHONE COMPANY	273,206	122,578	81,061	17,929	9,278	230,846	42,360	1,892
MILTON TELEPHONE COMPANY	648,736	291,177	159,462	43,933	29,064	523,636	125,099	5,080

TABLE 18 (CONTINUED)

UTILITY	OPERATING REVENUE	OPERATION AND MAINTENANCE	DEPN. AND AMORT.	TAXES OTHER THAN INCOME TAXES	INCOME TAXES	TOTAL OPERATING EXPENSE	NET OPERATING REVENUE	TOTAL STATIONS CLOSE OF YEAR
MONDOVI TELEPHONE COMPANY	443,173	221,213	120,944	28,080	1,442	378,280	64,893	2,817
MONROE COUNTY TELEPHONE COMPANY	1,893,337	988,525	228,137	167,088	100,700	1,585,061	308,277	10,918
MOSEL CENTERVILLE TELEPHONE COMPANY	691,595	321,003	142,045	37,427	72,092	574,178	117,417	4,575
MOSINEE TELEPHONE COMPANY	672,618	345,021	188,411	49,040	7,397	590,479	82,138	4,165
MOUNT HOREB TELEPHONE COMPANY	597,462	347,673	101,618	28,011	61,242	447,944	149,518	3,952
MOUNT VERNON TELEPHONE COMPANY	1,212,488	592,489	266,388	92,330	127,108	1,078,315	240,151	7,238
NELSON TELEPHONE COOPERATIVE	775,362	330,827	260,150	52,141	0	644,128	131,235	4,530
NIAGARA TELEPHONE COMPANY	554,212	320,572	97,682	29,558	15,662	473,475	80,737	2,897
NORTHEAST TELEPHONE COMPANY	972,130	398,702	239,571	62,654	108,153	709,082	264,048	5,495
NORTH-WEST TELEPHONE COMPANY	15,562,472	5,812,184	2,948,587	1,325,672	727,212	11,814,656	3,747,816	67,683
NOVYS TELEPHONE COMPANY	67,819	30,645	11,880	4,884	0	47,409	20,410	612
OGEMA TELEPHONE COMPANY	178,925	100,395	47,940	8,218	4,982	161,535	17,389	1,153
OSCEOLA TELEPHONE COMPANY	571,179	266,422	130,482	34,348	52,153	423,407	147,772	2,842
PEOPLES TELEPHONE CO	422,791	198,461	132,997	20,721	21,746	373,925	48,866	2,255
PEOPLES TELEPHONE CO OF RIO, INC.	947,738	404,672	210,415	71,190	78,175	824,452	123,255	7,103
PLATTEVILLE TELEPHONE COMPANY	2,512,698	1,222,741	503,563	254,109	139,604	2,120,018	392,680	9,743
POPLAR TELEPHONE COMPANY INC	137,671	65,551	29,182	6,197	11,403	112,333	25,337	728
INDIANHEAD TELEPHONE CO.	660,731	308,572	134,509	45,709	104,472	453,324	207,398	1,628
PRICE COUNTY TELEPHONE COMPANY	740,951	281,239	202,389	52,593	56,472	593,693	147,259	3,595
RHINELANDER TELEPHONE COMPANY	2,226,257	848,874	404,221	181,960	238,782	1,673,848	552,509	13,489
RIB LAKE TELEPHONE COMPANY	245,337	106,047	49,017	15,739	15,501	186,904	58,433	1,185
RICHLAND GRANT TELEPHONE COOPERATIVE	474,232	238,696	125,166	20,800	0	404,662	69,571	3,009
ROCK RIVER TELEPHONE COMPANY	345,481	168,412	100,736	24,227	4,680	298,165	47,316	1,910
ST CROIX TELEPHONE COMPANY	1,146,776	412,781	267,222	125,549	134,498	940,050	206,726	6,716
SCANDINAVIA TELEPHONE COMPANY	479,529	175,639	115,114	26,699	59,242	376,796	102,744	2,161
SHARON TELEPHONE COMPANY	220,908	112,660	33,255	16,335	18,296	180,546	40,422	1,357
SHELL LAKE TELEPHONE COMPANY	386,824	125,646	90,821	28,064	47,582	291,512	95,312	2,298
SIREN TELEPHONE COMPANY INCORPORATED	252,274	95,267	49,826	17,200	27,672	189,965	62,310	1,570
SOLON SPRINGS TELEPHONE COMPANY	689,471	282,687	162,289	39,791	74,893	561,660	127,811	2,821
SOMERSET TELEPHONE COMPANY, INC	215,692	98,250	40,032	14,931	17,430	170,743	44,949	1,225
SOUTHEAST TELEPHONE CO OF WISC, INC	970,759	355,481	288,185	62,955	62,482	771,102	199,656	7,007
SPRING VALLEY TELEPHONE COMPANY, INC	157,888	65,443	23,051	8,261	16,040	112,295	44,494	1,130
STATE LONG DISTANCE TELEPHONE CO	1,607,335	503,577	266,414	129,825	261,274	1,161,089	446,246	7,797

TABLE 18 (CONTINUED)

UTILITY	OPERATING REVENUE	OPERATION AND MAINTENANCE	DEPN. AND AMORT.	TAXES OTHER THAN INCOME TAXES	INCOME TAXES	TOTAL OPERATING EXPENSE	NET OPERATING REVENUE	TOTAL STATIONS CLOSE OF YEAR
STOCKBRIDGE & SHERWOOD TELEPHONE CO	510,049	222,454	118,700	23,775	73,159	438,088	71,961	2,674
SULLIVAN TELEPHONE COMPANY	314,591	129,709	67,726	18,928	26,024	242,387	72,204	1,971
TENNEY TELEPHONE COMPANY	212,600	66,220	45,424	12,969	28,354	152,966	59,634	1,267
THORP TELEPHONE COMPANY	517,533	268,291	134,718	37,585	11,274	451,867	65,666	2,766
TRI-COUNTY TELEPHONE COOP, INC	703,734	318,282	209,451	43,737	0	571,471	132,263	4,503
TURTLE LAKE TELEPHONE COMPANY INC	172,148	128,311	36,369	10,104	-9,637	165,147	7,002	1,237
UNION TELEPHONE COMPANY	318,612	145,621	62,748	21,294	17,523	248,297	70,315	1,953
UNITED TELEPHONE COMPANY	2,997,457	1,720,011	1,422,215	347,338	-2,400	3,487,263	500,194	16,602
UNIVERSAL TEL CO OF NORTHERN WIS INC	1,011,029	319,480	205,725	71,291	123,286	719,782	291,246	4,206
URBAN TELEPHONE CORPORATION	3,349,740	1,456,737	590,829	305,366	376,779	2,729,720	620,020	21,160
VALDERS TELEPHONE COMPANY	494,102	198,994	100,692	25,135	73,075	397,896	96,206	2,803
VERNON TELEPHONE COOPERATIVE	950,831	390,408	275,901	63,792	0	730,101	220,729	7,275
VIROQUA TELEPHONE COMPANY	999,497	548,422	188,474	85,421	58,960	881,276	118,221	4,321
WAUNAKEE TELEPHONE COMPANY INC	762,747	328,813	131,687	45,696	68,821	585,018	177,729	4,252
WAYSIDE TELEPHONE COMPANY	218,815	128,260	53,888	14,375	41	196,564	22,251	1,675
WEST WISCONSIN TELEPHONE COOP, INC	782,302	356,825	212,780	50,370	0	619,986	162,316	4,274
WEYAUWEGA TELEPHONE COMPANY	651,584	300,283	159,602	46,275	34,466	540,826	110,759	4,225
WISCONSIN TELEPHONE COMPANY	568,950,678	270,940,502	82,020,497	48,793,649	61,076,794	462,831,442	106,119,236	2,274,490
WITTENBERG TELEPHONE COMPANY	281,647	145,910	52,188	17,727	6,572	222,397	59,250	2,152
WOOD COUNTY TELEPHONE COMPANY	4,834,270	1,982,551	995,895	424,579	435,079	3,838,104	996,166	28,121
TOTAL	797,870,065	361,485,201	136,697,871	67,197,524	78,275,977	643,656,632	154,213,433	3,406,654

WATER UTILITIES

Comparative statistics of water utilities operating in Wisconsin during the period from 1976 through 1978 are presented in this section. Chart 17 shows a summary of the income account over a ten-year period. The coverage is summarized below.

Table 19 - Comparative Statement of Revenues and Expenses Wisconsin Water Utilities, 1978-1976.
Table 20 - Operating and Plant Statistics, Wisconsin Water Utilities, 1978-1976.
Table 21 - Condensed summary of 1978 Operations, Individual Water Utilities

Chart 17 - Comparison of Revenues and Expenses, Wisconsin Water Utilities, 1969-1978.

Water Utility Revenues and Expenses

Chart 17 shows that revenues and expenses have advanced steadily over the past nine years. Taxes are up 14% for the period while depreciation rose 82%, operating revenues rose 85% and net operating revenue increased 94%.

Revenues increased 3.8% and operating expenses were up 1.3% during 1978. Net operating revenue increased 25.2%. Last year net operating revenue decreased 23.3%.

Operating and Plant Statistics

The total number of water customers served rose 4.2% in 1978 while gallons of water pumped were down 2.7%. Electric pumpage accounted for 99.9% of the total and the remainder was by internal combustion engine. Total miles of main increased 1.3%.

Data on Individual Utilities

Table 21 shows selected data on each Class A and B water utility, all but three of which are municipally owned. The table also shows totals for the smaller utilities. Municipal utilities accounted for 96.7% of the total operating revenue and served 97.0% of the customers. Superior, served by Superior Water, Light, and Power Company, and Beloit and Ripon served by Wisconsin Power and Light Company, were the largest cities served by private utilities.

CHART 17
WISCONSIN WATER UTILITIES REVENUES AND EXPENSES

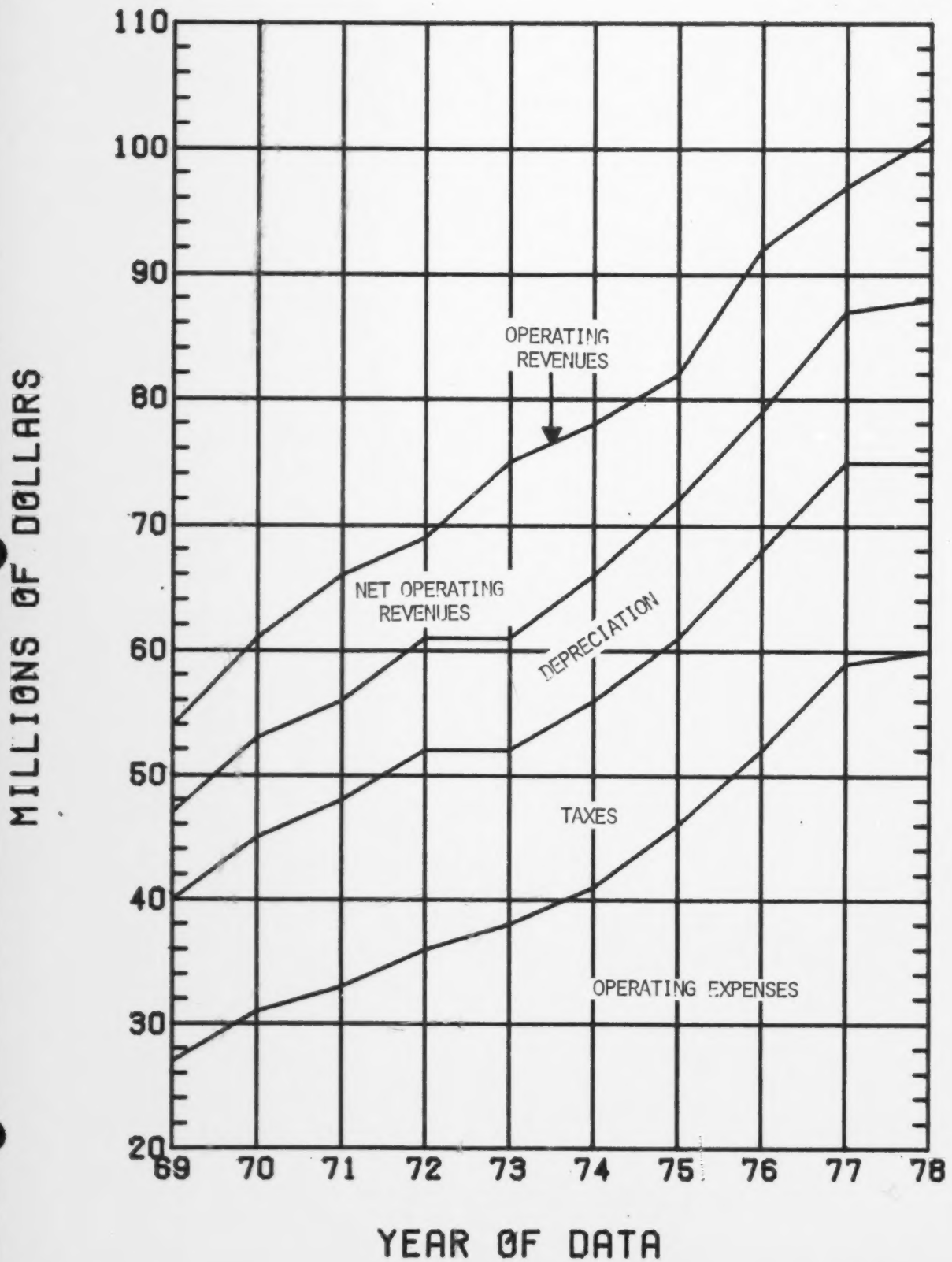


TABLE 19

COMPARATIVE STATEMENT OF REVENUES AND EXPENSES
WISCONSIN WATER UTILITIES
1978-1976

	1978	1977	1976
All Water Utilities			
Operating Revenues			
Sales to General Consumers	$ 73,983,768	$ 71,574,448	$ 68,188,275
Interdepartmental Sales	72,650	75,813	72,998
Sales to Other Water Utilities	2,993,656	3,141,508	3,375,096
Fire Protection and Other Municipal Sales	22,469,917	21,155,636	19,739,052
Total Sales of Water	$ 99,519,991	$ 95,947,405	$ 91,375,421
Miscellaneous Operating Revenues	1,494,663	1,327,716	1,079,314
Total Operating Revenues	$101,014,654	$ 97,275,121	$ 92,454,735
Operating Expenses			
Source of Water Supply (Excluding Purchases)	$ 941,194	$ 830,686	$ 707,525
Water Purchases	3,485,928	3,601,440	3,665,824
Pumping Expenses	14,488,061	13,715,683	12,774,594
Purification	8,279,916	7,537,041	7,267,143
Total Production Expense	$ 27,195,099	$ 25,684,850	$ 24,415,086
Transmission and Distribution	15,028,839	16,462,748	12,514,953
Customer Accounts	4,509,002	4,370,820	4,274,722
Sales	853	924	388
Administrative and General Expenses	13,044,186	12,022,269	10,610,870
Total Operation and Maintenance Expense	$ 59,777,979	$ 58,541,611	$ 51,816,019
Depreciation and Amortization	13,065,901	12,318,080	11,325,923
Taxes Other than Income Taxes	15,076,541	15,821,619	15,517,233
Income Taxes	132,028	239,831	304,751
Total Operating Expenses	$ 88,052,449	$ 86,921,141	$ 78,963,926
Net Operating Revenues	$ 12,962,205	$ 10,353,980	$ 13,490,809

TABLE 19 (Concluded)

COMPARATIVE STATEMENT OF REVENUES AND EXPENSES
WISCONSIN WATER UTILITIES
1978-1976

	1978	1977	1976
Private Water Utilities			
Total Operating Revenues	$ 3,355,532	$ 3,142,106	$ 2,982,373
Operation and Maintenance	$ 1,938,529	$ 1,771,555	$ 1,515,627
Depreciation and Amortization	312,896	292,069	278,190
Taxes Other than Income Taxes	329,105	293,322	271,679
Income Taxes	132,028	239,831	304,751
Total Operating Expenses	$ 2,712,558	$ 2,596,777	$ 2,370,247
Net Operating Revenues	$ 642,974	$ 545,329	$ 612,126
Municipal Utilities			
Total Operating Revenues	$ 97,659,122	$ 94,133,015	$ 89,472,362
Operation and Maintenance	$ 57,839,450	$ 56,770,056	$ 50,300,392
Depreciation and Amortization	12,753,005	12,026,011	11,047,733
Taxes Other than Income Taxes	14,747,436	15,528,297	15,245,554
Total Operating Expenses	$ 85,339,891	$ 84,324,364	$ 76,593,679
Net Operating Revenues	$ 12,319,231	$ 9,808,651	$ 12,878,683

TABLE 20

OPERATING AND PLANT STATISTICS
WISCONSIN WATER UTILITIES
1978-1976

	1978	1977	1976
Average Number of Customers			
Residential	828,577	802,463	784,553
Commercial	79,453	71,018	69,748
Industrial	9,628	7,083	6,993
Total	917,658	880,564	861,294
Private Utilities	27,194	26,951	26,630
Municipal Utilities	890,464	853,613	834,664
Total	917,658	880,564	861,294
Gallons of Water Pumped into Distribution System (000 Omitted)			
Electric Power	195,390,768	200,800,938	211,753,894
Internal Combustion	27,886	22,383	26,832
Total	195,418,654	200,823,321	211,780,726
Private Utilities	5,063,173	5,274,090	4,958,909
Municipal Utilities	190,355,481	195,549,231	206,821,817
Total	195,418,654	200,823,321	211,780,726
Miles of Distribution Main On December 31			
Private Utilities	370	367	368
Municipal Utilities	12,278	12,123	12,124
Total	12,648	12,490	12,492

TABLE 21

CONDENSED SUMMARY OF 1978 OPERATIONS
INDIVIDUAL WATER UTILITIES

Utilities	Operating Revenues	Operation and Maintenance	Depreciation and Amortization	Taxes Other Than Income Taxes	Income Taxes	Total Operating Expenses	Net Operating Revenue	Average Number of Customers 1/
Private Utilities								
Class A and B								
Lake Superior District Power Co. (LSDP)	$ 43,299	$ 52,902	$ 6,421	$ 6,902	$ (18,100)	$ 48,125	$ (4,826)	383
Superior Water, Light & Power Co. (SWLP)	1,231,237	892,779	73,909	124,049	(24,800)	1,065,937	165,300	9,582
Wisconsin Power & Light Co. (WPL)	1,887,649	873,298	205,771	181,690	156,746	1,417,505	470,144	15,504
Sub Total	$ 3,162,185	$ 1,818,979	$ 286,101	$ 312,641	$ 113,846	$ 2,531,567	$ 630,618	25,469
15 Class D Utilities 2/	193,347	119,550	26,795	16,464	18,182	180,991	12,356	1,950
Total Private Utilities	$ 3,355,532	$ 1,938,529	$ 312,896	$ 329,105	$ 132,028	$ 2,712,558	$ 642,974	27,419
Municipal Utilities								
Class A								
Appleton	$ 2,082,300	$ 1,355,368	$ 243,681	$ 260,337	$ 0	$ 1,859,386	$ 222,914	18,811
Cudahy	927,942	411,439	155,857	152,328	0	719,624	208,318	5,085
Eau Claire	1,787,755	884,052	171,648	252,430	0	1,308,130	479,625	15,023
Fond Du Lac	909,760	665,019	115,817	126,727	0	907,563	2,197	11,836
Glendale	667,158	353,576	107,924	80,673	0	542,173	124,985	4,261
Green Bay	3,099,719	1,473,295	357,242	309,745	0	2,140,282	959,437	26,978
Janesville	876,504	510,828	76,497	129,228	0	716,553	159,951	15,544
Kaukauna	349,950	170,669	63,570	64,943	0	299,182	50,768	3,583
Kenosha	2,374,542	1,427,251	311,843	346,276	0	2,085,370	289,172	22,752
La Crosse	1,155,896	798,494	132,503	130,085	0	1,061,082	94,814	14,526
Madison	4,078,627	2,555,650	520,424	700,951	0	3,777,025	301,602	42,860
Manitowoc	1,304,911	576,112	176,694	205,871	0	958,677	346,234	10,563
Marinette	595,200	313,415	82,542	76,094	0	472,051	123,149	4,253
Marshfield	509,874	317,423	54,283	77,848	0	449,554	60,320	5,562
Milwaukee	23,209,799	13,205,167	2,317,902	3,972,627	0	19,495,696	3,714,103	157,308
Neenah	901,661	548,548	117,797	135,268	0	801,613	100,048	7,725
Oshkosh	1,468,666	885,352	232,681	212,029	0	1,330,062	138,604	16,022
Racine	2,735,958	1,910,445	309,550	310,795	0	2,530,790	205,168	27,413
Sheboygan	1,273,345	786,261	153,103	195,094	0	1,134,458	138,887	15,569
South Milwaukee	637,994	450,134	59,959	87,033	0	597,126	40,868	5,735
Waukesha	2,087,254	1,235,656	211,781	207,368	0	1,654,805	432,449	11,900
Wausau	887,960	592,020	158,313	143,158	0	893,491	(5,531)	11,522
Wauwatosa	1,910,778	1,468,071	168,512	238,347	0	1,874,930	35,848	15,540
West Allis	2,204,712	1,677,118	180,398	312,156	0	2,169,672	35,040	18,771
Wisconsin Rapids	754,304	449,079	86,455	126,908	0	662,442	91,862	6,453
Subtotal	$58,792,569	$35,020,442	$ 6,566,976	$ 8,854,319	$ 0	$50,441,737	$ 8,350,832	495,595

TABLE 21 (Concluded)

CONDENSED SUMMARY OF 1978 OPERATIONS
INDIVIDUAL WATER UTILITIES

Utilities	Operating Revenues	Operation and Maintenance	Depreciation and Amortization	Taxes Other Than Income Taxes	Income Taxes	Total Operating Expenses	Net Operating Revenue	Average Number of Customers 1/
Municipal Utilities (Continued)								
Class B								
Allouez	$ 345,680	$ 226,414	$ 63,269	$ 56,337	$ 0	$ 346,020	$ (340)	4,506
Ashland	324,027	233,007	29,791	56,131	0	318,929	5,098	2,813
Beaver Dam	514,131	289,087	50,299	57,817	0	397,203	116,928	5,103
Brown Deer	457,550	324,663	67,755	70,807	0	463,225	(5,675)	3,154
Cedarburg	249,431	136,539	32,209	33,881	0	202,629	46,802	2,565
Chippewa Falls	569,818	351,278	67,481	97,780	0	516,539	53,279	3,819
De Pere	291,332	209,069	47,170	50,409	0	306,648	(15,316)	4,702
Greendale	474,169	331,508	50,057	69,276	0	450,841	23,328	4,438
Menasha	687,271	556,203	74,033	89,104	0	719,340	(32,069)	4,765
Menasha, Twn. S.D. #4	441,270	304,557	85,827	0	0	390,384	50,886	3,246
Menomonee Falls	496,993	270,049	76,276	95,670	0	441,995	54,998	4,589
New London	150,600	71,743	18,136	23,201	0	113,080	37,520	2,065
Oak Creek	624,948	345,413	224,675	196,338	0	766,426	(141,478)	2,155
Oconomowoc	589,412	268,347	67,534	72,591	0	408,472	180,940	2,946
Platteville	315,629	193,794	63,113	36,984	0	293,891	21,738	2,432
Plymouth	205,116	163,765	19,156	24,864	0	207,785	(2,669)	2,059
Port Washington	363,016	243,999	79,805	82,264	0	406,068	(43,052)	2,607
River Falls	194,910	126,712	25,382	20,480	0	172,574	22,336	2,013
Shawano	203,376	107,898	20,190	23,287	0	151,375	52,001	2,745
Shorewood	397,022	335,038	13,750	21,907	0	370,695	26,327	3,549
Stevens Point	573,289	344,460	62,674	97,664	0	504,798	68,491	6,707
Sturgeon Bay	322,945	151,293	54,994	42,931	0	249,218	73,727	2,878
Sun Prairie	247,447	150,600	36,561	41,770	0	228,931	18,516	3,463
Two Rivers	527,796	295,950	56,225	72,502	0	424,677	103,119	4,499
Waterloo	47,849	29,755	6,800	7,783	0	44,338	3,511	1,052
Watertown	508,556	237,205	50,473	52,369	0	340,047	168,509	5,489
Waupaca	382,034	110,012	43,910	39,779	0	193,701	188,333	1,735
West Bend	463,979	247,149	96,540	69,676	0	413,365	50,614	5,760
Whitefish Bay	352,402	185,359	66,220	45,981	0	297,560	54,842	4,780
Subtotal	$11,321,998	$ 6,840,866	$ 1,650,305	$ 1,649,583	$ 0	$10,140,754	$ 1,181,244	102,634
Class C 115 Utilities	16,908,374	9,880,381	2,524,838	2,580,008	0	14,985,227	1,923,147	165,346
Class D 347 Utilities	10,636,181	6,097,761	2,010,886	1,663,526	0	9,772,173	864,008	140,682
Total Municipal Utilities	$97,659,122	$57,839,450	$ 12,753,005	$ 14,747,436	$ 0	$85,339,891	$ 12,319,231	904,257
Total All Utilities	$101,014,654	$59,777,979	$ 13,065,901	$ 15,076,541	$ 132,028	$88,052,449	$ 12,962,205	931,676

1/ Includes fire protection, public authorities, interdepartmental and other water utility customers.
2/ There were no private class C utilities in 1978.
( ) Denotes negative figure.

STEAM AND HOT WATER HEATING UTILITY SUMMARY

As shown in Table 22, steam and hot water heating utility operations in Wisconsin are not very extensive. Only three utilities rendered this service in 1978.

The Wisconsin Electric Power Company, operating in the city of Milwaukee, has by far the largest heating utility in the State, serving 610 customers at the close of 1978. Its net operating revenue for the year was $1,194,803.

Other communities in which heating service was supplied during the year included Waterloo, served by a municipal utility, and Rice Lake, served by Rice Lake Steam Corporation. Rice Lake showed a gain of $4,174 while Waterloo had a loss of $4,910 for 1978.

TABLE 22

COMPARATIVE STATEMENT OF REVENUES, EXPENSES
AND STATISTICS FOR WISCONSIN STEAM AND HOT WATER
HEATING UTILITIES
1978-1976

	1978	1977	1976
Operating Revenues	$8,640,684	$7,738,026	$7,581,581
Operation and Maintenance	5,681,602	5,449,618	4,971,830
Depreciation	618,566	567,532	558,097
Taxes	1,146,449	840,494	990,156
Total Operating Expenses	$7,446,617	$6,857,644	$6,520,083
Net Operating Revenues	$1,194,067	$ 880,382	$1,061,498
Number of Customers	780	796	792